AU [illegible]
CS Dep. Biol., Queen's Univ., Kingston, ON, 7KL 3N6, Can.
SO Plant Mol. Biol. (199[redacted] 15(4), 665-9
CODEN: PMBIDB; ISSN: 0167-4412
DT Journal
LA English

L5 ANSWER 13 OF 19 CA COPYRIGHT 1995 ACS
AB Comparison of the mass action ratios obtained from detn. of the amts. of glycolytic intermediates in anoxic and aerobic freeze-clamped samples of ***potato*** tubers with apparent equil. consts. showed that in vivo the reactions catalyzed by glucosephosphate isomerase, phosphoglycerate mutase, and enolase were close to equil. The ratios fructose 1,6-diphosphate:fructose 6-phosphate, and pyruvate:phosphoenolpyruvate indicated that reactions catalyzed by phosphofructokinase (EC 2.7.1.11) and ***pyruvate*** ***kinase*** (EC 2.7.1.40), resp., were displaced from equil. Stimulation of glycolysis by placing tubers in a N atm. caused declines in their contents of fructose 6-phosphate and phosphoenolpyruvate. Thus, phosphofructose may play a dominant role in regulating entry into glycolysis, and ***pyruvate*** ***kinase*** may regulate exit therefrom, and the oxidative pentose phosphate path. Cold-induced sweetening of the tubers is discussed in the light of these conclusions.
AN 93:201055 CA
TI Identification of the regulatory steps in glycolysis in ***potato*** tubers
[illegible]:[illegible]CLEAR PAGE, PLEASETN INTERNATIONAL P0013

L5 ANSWER 13 OF 19 CA COPYRIGHT 1995 ACS
AU Dixon, Wendy L.; Ap Rees, Tom
CS Bot. Sch., Univ. Cambridge, Cambridge, CB2 3EA, Engl.
SO Phytochemistry (1980), 19(7), 1297-301
CODEN: PYTCAS; ISSN: 0031-9422
DT Journal
LA English

L5 ANSWER 15 OF 19 CA COPYRIGHT 1995 ACS
AB Storage of tubers of S. tuberosum at 10.degree. or 2.degree. for 15 days did not alter significantly the max. catalytic activities of sucrose phosphate synthetase, sucrose synthetase, glucose-6-phosphate dehydrogenase, aldolase, and glyceraldehydephosphate dehydrogenase. The temp coeffs. of phosphofructokinase, glyceraldehydephosphate dehydrogenase, and ***pyruvate*** ***kinase*** from the tubers were shown to be higher between 2.degree. and 10.degree. than between 10.degree. and 25.degree.. The rate of sugar accumulation at 2.degree. exceeded the activity of sucrose synthetase but was less than that of sucrose phosphate synthetase. It is suggested that sucrose accumulation at 2.degree. is catalyzed by sucrose phosphate synthetase, is not due to changes in the max. catalytic activities of any of the above enzymes, but may be due, in part, to the susceptibility of key glycolytic enzymes to cold.
AN 83:41734 CA
TI Activities of enzymes of sugar metabolism in cold-stored tubers of Solanum tuberosum
AU Pollock, Christopher J.; Ap Rees, Tom
CS Bot. Sch., Univ. Cambridge, Cambridge, Engl.
SO Phytochemistry (1975), 14(3), 613-17
[illegible]:[illegible]CLEAR PAGE, PLEASETN INTERNATIONAL P0014

L5 ANSWER 15 OF 19 CA COPYRIGHT 1995 ACS
CODEN: PYTCAS
DT Journal
LA English

L5 ANSWER 12 OF 19 CA COPYRIGHT 1995 ACS
PY 1986

L5 ANSWER 13 OF 19 CA COPYRIGHT 1995 ACS
TI Identification of the regulatory steps in glycolysis in ***potato*** tubers
PY 1980

L5 ANSWER 14 OF 19 CA COPYRIGHT 1995 ACS
TI Reversal of post translational tyrosylation of tubulin
PY 1979

L5 ANSWER 15 OF 19 CA COPYRIGHT 1995 ACS
TI Activities of enzymes of sugar metabolism in cold-stored tubers of Solanum tuberosum
PY 1975

L5 ANSWER 16 OF 19 CA COPYRIGHT 1995 ACS
TI Comparative studies on metabolism of plant storage tissues with primary and secondary meristematic activity
PY 1971

L5 ANSWER 17 OF 19 CA COPYRIGHT 1995 ACS
TI Glucose metabolism of dereprimed plant storage parenchyma following inhibition of mitotic activity by tris(hydroxymethyl)aminomethane
PY 1971

L5 ANSWER 18 OF 19 CA COPYRIGHT 1995 ACS
10:BPR285C0BY5ANB6CLEAR PAGE, PLEASETN INTERNATIONAL P0011

L5 ANSWER 18 OF 19 CA COPYRIGHT 1995 ACS
TI Enzyme activities and levels of substrates of glucose catabolism in proliferating and suberin-synthesizing tuber cells of Solanum tuberosum
PY 1970

L5 ANSWER 19 OF 19 CA COPYRIGHT 1995 ACS
TI Regulation of glycolysis by the synthesis and degradation of enzymes
PY 1969

=) d 15 10 13 15 ab bib

L5 ANSWER 10 OF 19 CA COPYRIGHT 1995 ACS
AB The complete nucleotide sequence and derived amino acid sequence was detd. of the 2.0-kb ***potato*** cDNA. The nucleotide sequence contains an open reading frame (ORF) of 1530 bp corresponding to a polypeptide of 510 amino acids. The identification of the translation start site was facilitated by the homol. that this clone shares with the enzyme from mammals and yeast. The 3'-untranslated region is 378 bp in length including 5 bp of poly(A)+ tail. There is one consensus polyadenylation signal (AATAAA) in the 3'-untranslated region of the ***potato*** cDNA clone and several other AT-rich regions that could also serve this function. At the 5' end of the clone there is an untranslated region of 97 bp. The ORF encodes a protein with a predicted Mr of 55,170 Da. This value is very similar to the subunit Mr of 56 kDa detd. by SDS-PAGE of purified cytosolic ***pyruvate*** ***kinase*** from plants.
AN 114:222461 CA
TI Cloning and characterization of a cDNA for the cytosolic isozyme of
10:BPR385C0BY5ANB1CLEAR PAGE, PLEASETN INTERNATIONAL P0012

L5 ANSWER 10 OF 19 CA COPYRIGHT 1995 ACS
plant ***pyruvate*** ***kinase*** : the relationship between the plant and non-plant enzyme

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          62832 VECTOR?/AB
          68209 VECTOR?/BI
          84938 CLONE?/AB
          95932 CLONE?/BI
L3          141 L1 AND (PLASMID? OR VECTOR? OR CLONE?)/AB,BI

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        201958 TRANSFORM?/AB
        244256 TRANSFORM?/BI
L4           37 L3 AND TRANSFORM?/AB,BI

=> s l1 and potato?/ab,bi
         22645 POTATO?/AB
         26995 POTATO?/BI
L5           19 L1 AND POTATO?/AB,BI

=> d l4 and l5
L6            2 L4 AND L5

=> d 16 1-2

L6   ANSWER 1 OF 2  CA  COPYRIGHT 1995 ACS
AN   121:75330  CA
TI   Plants with reduced susceptibility to plant-parasitic nematodes
IN   Sijmons, Peter Christiaan; Goddijn, Oscar Johannes Maria; Van den
     Elzen, Petrus Josephus; Van der Lee, Frederique Mariann
PA   Mogen International N.V., Neth.
SO   PCT Int. Appl., 42 pp.
     CODEN: PIXXD2
PI   WO 9410320 A1  940511
DS   W:  AU, BB, BG, BR, BY, CA, CZ, FI, HU, JP, KP, KR, KZ, LK, MG, MN,
         MW, NO, NZ, PL, RO, RU, SD, SK, UA, US, VN
     RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR,
         IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG
AI   WO 93-EP3091  931102
PRAI EP 92-203378  921102
DT   Patent
[illegible]:[illegible]395C[illegible]BY5[illegible]B2CLEAR PAGE, PLEASETN INTERNATIONAL                P0007

L6   ANSWER 1 OF 2  CA  COPYRIGHT 1995 ACS
LA   English

L6   ANSWER 2 OF 2  CA  COPYRIGHT 1995 ACS
AN   119:64908  CA
TI   Transgenic plants with reduced susceptibility to plant-parasitic
     nematodes
IN   Sijmons, Peter Christiaan; Goddijn, Oscar Johannes Maria; Van Den
     Elzen, Peter J. M.; Van Der Lee, Frederique Marianne
PA   Mogen International N. V., Neth.
SO   PCT Int. Appl., 95 pp.
     CODEN: PIXXD2
PI   WO 9310251 A1  930527
DS   W:  AU, BB, BG, BR, CA, CS, FI, HU, JP, KP, KR, LK, MG, MN, MW, NO,
         PL, RO, RU, SD, UA, US
     RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR,
         IE, IT, LU, MC, ML, MR, NL, SE, SN, TD, TG
AI   WO 92-EP2559  921102
PRAI EP 91-203041  911120
     EP 92-200046  920110
DT   Patent
LA   English

=> d l5 1-19 ti py
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L5 ANSWER 1 OF 19 CA COPYRIGHT 1995 ACS
TI Plants with reduced susceptibility to plant-parasitic nematodes
PY 1994
 P0008

L5 ANSWER 2 OF 19 CA COPYRIGHT 1995 ACS
TI Changes of carbohydrates, metabolites and enzyme activities in ***potato*** tubers during development, and within a single tuber along a stolon-apex gradient
PY 1993

L5 ANSWER 3 OF 19 CA COPYRIGHT 1995 ACS
TI Structure of the gene encoding ***potato*** cytosolic ***pyruvate*** ***kinase***
PY 1992

L5 ANSWER 4 OF 19 CA COPYRIGHT 1995 ACS
TI Regulation of the expression of rbcS and other photosynthetic genes by carbohydrates: a mechanism for the 'sink regulation' of photosynthesis?
PY 1993

L5 ANSWER 5 OF 19 CA COPYRIGHT 1995 ACS
TI Transgenic plants with reduced susceptibility to plant-parasitic nematodes
PY 1993

L5 ANSWER 6 OF 19 CA COPYRIGHT 1995 ACS
TI Transgenic plants with modified metabolism.
PY 1992

L5 ANSWER 7 OF 19 CA COPYRIGHT 1995 ACS
TI Normal growth of transgenic tobacco plants in the absence of cytosolic ***pyruvate*** ***kinase***
 P0009

L5 ANSWER 7 OF 19 CA COPYRIGHT 1995 ACS
PY 1992

L5 ANSWER 8 OF 19 CA COPYRIGHT 1995 ACS
TI Glycogen breakdown in cleaving Xenopus embryos is limited by ADP
PY 1992

L5 ANSWER 9 OF 19 CA COPYRIGHT 1995 ACS
TI Contrasting roles for pyrophosphate:fructose-6-phosphate phosphotransferase during aging of tissue slices from ***potato*** tubers and carrot storage tissues
PY 1991

L5 ANSWER 10 OF 19 CA COPYRIGHT 1995 ACS
TI Cloning and characterization of a cDNA for the cytosolic isozyme of plant ***pyruvate*** ***kinase*** : the relationship between the plant and non-plant enzyme
PY 1990

L5 ANSWER 11 OF 19 CA COPYRIGHT 1995 ACS
TI Proline metabolism in Solanum tuberosum cell suspension cultures under water stress
PY 1989

L5 ANSWER 12 OF 19 CA COPYRIGHT 1995 ACS
TI The content of ATP, ADP, AMP, inorganic phosphate, the activity of enzymes involved in the glycolytic pathway and some problems of its regulation, and energy balance in tobacco plants infected with ***potato*** virus Y
 P0010

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SET COMMAND COMPLETED

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'C' IS AN AMBIGUOUS FILE OR CLUSTER NAME
 CASLINK           - Linked CAS files (Predefined Search Sequences)
 CASRNS            - CAS Registry Numbers Cluster
 CHEMDATA          - Chem Properties and Data Cluster (Numeric Data)
 CHEMENG           - Chemical Engineering Cluster
 CHEMISTRY         - Chemical Literature Cluster
18:50:19 ON 27 APR 95 CLEAR PAGE, PLEASE STN INTERNATIONAL                P0003
 CJO               - Fulltext Chemical Journals Online Cluster
 COMPANIES         - Files for company based searches
 COMPUTER          - Computer Science Cluster
 CONSTRUCTION      - Building and Construction Cluster
 CORPSOURCE        - Files for STNINDEX corporate source based searches
 CURRENT           - Current file environment Cluster
 CA                - The Chemical Abstracts File for 1967-present
 CABA              - CAB ABSTRACTS 1973-present
 CANCERLIT         - Cancer Literature Online 1963-present
 CAOLD             - The pre-1967 Chemical Abstracts File
 CAPLUS            - The Chemical Abstracts Plus File for 1967-present
 CAPREVIEWS        - Preview File for the Chemical Abstracts File
 CASREACT          - The Chemical Abstracts Reaction Search Service
 CBNB ca
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
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FULL ESTIMATED COST                                    0.78       0.78

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FILE COVERS 1967 - 15 Apr 1995 (950415/ED)  VOL 122 ISS 16

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  SmartSELECT searches with large numbers of terms.
18:50:49 ON 27 APR 95 CLEAR PAGE, PLEASE STN INTERNATIONAL                P0005

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=> s (pyruvate(w)kinase?)/ab,bi
         26688 PYRUVATE/AB
         29726 PYRUVATE/BI
         68668 KINASE?/AB
         76000 KINASE?/BI
L1        5897 (PYRUVATE(W)KINASE?)/AB,BI

=> s l1 and (gene or genes andplasmid? ovrvector?)/ab,bi
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        282574 GENE/BI
         92570 GENES/AB
        113743 GENES/BI
         50990 PLASMID?/AB
         59234 PLASMID?/BI
         62832 VECTOR?/AB
         68209 VECTOR?/BI
L2         384 L1 AND (GENE OR GENES OR PLASMID? OR VECTOR?)/AB,BI

=> s l1 and (plasmid? or vector? or clone?)/ab,bi
         50990 PLASMID?/AB
```

presence of [illegible] flavin mononucleotide, Piero Fossati, 435/14, 15, 21, 25, 26, 28 [IMAGE AVAILABLE]

13. 4,794,175, Dec. 27, 1988, Glucoamylase CDNA; Jack Nunberg, et al., 536/24.3; 435/91.51, 91.53, 172.1, 172.3, 205, 254.3, 320.1, 914; 536/23.2, 23.7, 24.32; 935/14, 19, 21, 29, 68, 72, 73 [IMAGE AVAILABLE]

14. 4,608,335, Aug. 26, 1986, Enzymatic urea assay; Piero Fossati, 435/12, 15, 25 [IMAGE AVAILABLE]

15. 4,451,566, May 29, 1984, Methods and apparatus for enzymatically producing ethanol; Donald B. Spencer, 435/162, 175, 288, 813, 814, 815, 819 [IMAGE AVAILABLE]

16. 4,303,752, Dec. 1, 1981, Selective determination of nucleotides in viable somatic and microbial cells; Seppo E. Kolehmainen, et al., 435/8, 18, 29, 34, 820 [IMAGE AVAILABLE]

=> d 15 7 8 11 ab

US PAT NO: 5,223,409 [IMAGE AVAILABLE] L5: 7 of 16

US PAT NO: 5,223,409 [IMAGE AVAILABLE] L5: 7 of 16

ABSTRACT:

In order to obtain a novel binding protein against a chosen target, DNA molecules, each encoding a protein comprising one of a family of similar potential binding domains and a structural signal calling for the display of the protein on the outer surface of a chosen bacterial cell, bacterial spore or phage (genetic package) are introduced into a genetic package. The protein is expressed and the potential binding domain is displayed on the outer surface of the package. The cells or viruses bearing the binding domains which recognize the target molecule are isolated and amplified. The successful binding domains are then characterized. One or more of these successful binding domains is used as a model for the design of a new family of potential binding domains, and the process is repeated until a novel binding domain having a desired affinity for the target molecule is obtained. In one embodiment, the first family of potential binding domains is related to bovine pancreatic trypsin inhibitor, the genetic package is M13 phage, and the protein includes the outer surface transport signal of the M13 gene III protein.

US PAT NO: 5,223,408 [IMAGE AVAILABLE] L5: 8 of 16

ABSTRACT:

A screening method for the selection of mutagenized proteins that are normally secreted by cells is described. The method includes the development of a cloning vector for the expression of secretory proteins as fusion proteins on the cell surface of transfected mammalian cells. The secreted protein is displayed on the cell surface by fusion with the glycophospholipid membrane anchor of decay accelerating factor (DAF). Tissue-type plasminogen activator (t-PA), which is normally secreted, is

US PAT NO: 5,223,408 [IMAGE AVAILABLE] L5: 8 of 16

used as a model protein. PCR mutagenesis is used to generate random mutations within the Kringle 1 (K1) domain of t-PA. Fluorescence activated cell sorting (FACS) is employed to screen for t-PA mutants possessing a loss of an epitope to a specific Mab, whose nonlinear binding domains overlap with the t-PA clearance receptor contact regions novel t-PA mutants designated N115S, N1425S, and K159R were discovered by this method.

US PAT NO: 5,045,463 [IMAGE AVAILABLE] L5: 11 of 16

ABSTRACT:
A gene having a DNA sequence complementary to that of the glucoamylase polypeptide mRNA from a fu[redacted]l species, preferably As[redacted]gillus awamori, is prepared. The mRNA is an approximately 2.2 kilobase poly A RNA obtained from fungal cells grown under conditions of glucoamylase induction. Reverse transcription of the mRNA provides a glucoamylase probe used to identify genomic digest fragments containing glucoamylase gene regions, which are sequenced to locate the introns and exons. The genomic fragments are spliced together to form a gene having a DNA sequence with altered or deleted introns which codes for fungal glucoamylase protein and is capable, when correctly combined with a cleaved DNA expression vector, of expressing a non-native protein having glucoamylase enzyme activity upon transformation of a host organism by the vector. The host is preferably bacteria or yeast. The transformed yeast host may be used to produce ethanol.

=> log y
U.S. Patent & Trademark Office LOGOFF AT 19:19:09 ON 27 APR 95

2. 5,294,699, Mar. 15, 1994, Inhibition of coloration of human serum albumin; Takao Ohmura, et al., 530/364; 435/69.6, **70.1** [IMAGE AVAILABLE]

3. 5,288,622, Feb. 22, 1994, Human nerve growth factor by recombinant technology; Alane M. Gray, et al., 435/69.4, **70.1**, 71.1, 320.1; 530/399; 536/23.5, 23.51 [IMAGE AVAILABLE]

4. 5,270,175, Dec. 14, 1993, Methods and compositions for producing metabolic products for algae; Benjamin A. Moll, 435/41, 69.1, **70.1**, 161, 172.3, 240.2, 320.1, 946; 536/23.2; 800/200, 205, DIG.7; 935/14, 23, 35, 67 [IMAGE AVAILABLE]

5. 5,229,115, Jul. 20, 1993, Adoptive immunotherapy with interleukin-7; David H. Lynch, 424/93.71, 85.2, 534; **435/70.1**, 240.2 [IMAGE AVAILABLE]

=> s l1 and potato?
17064 POTATO?
L5 16 L1 AND POTATO?

=> d l5 1-16

1. 5,387,756, Feb. 7, 1995, Modification of plant metabolism; Michael M. Burrell, et al., 800/205; 435/69.1, 70.1, 172.3, 194; 800/DIG.42 [IMAGE

AVAILABLE]

2. 5,367,060, Nov. 22, 1994, Structure, production and use of heregulin; Richard L. Vandlen, et al., 530/399, 350 [IMAGE AVAILABLE]

3. 5,364,934, Nov. 15, 1994, Plasma carboxypeptidase; Dennis T. Drayna, et al., 536/23.2; 435/240.2, 252.3, 320.1 [IMAGE AVAILABLE]

4. 5,346,991, Sep. 13, 1994, Tissue factor mutants useful for the treatment of myocardial infarction and coagulopathic disorders; Soumitra Roy, et al., 530/350; 435/172.3; 530/381, 829 [IMAGE AVAILABLE]

5. 5,286,654, Feb. 15, 1994, Detection and purification of activin polypeptide; Edward T. Cox, et al., 436/501, 536; 530/388.22, 395, 413 [IMAGE AVAILABLE]

6. 5,270,175, Dec. 14, 1993, Methods and compositions for producing metabolic products for algae; Benjamin A. Moll, 435/41, 69.1, 70.1, 161, 172.3, 240.2, 320.1, 946; 536/23.2; 800/200, 205, DIG.7; 935/14, 23, 35, 67 [IMAGE AVAILABLE]

7. 5,223,409, Jun. 29, 1993, Directed evolution of novel binding proteins; Robert C. Ladner, et al., 435/69.7, 5, 69.1, 172.3, 252.3, 320.1; 530/387.3, 387.5 [IMAGE AVAILABLE]

8. 5,223,408, Jun. 29, 1993, Method for making variant secreted proteins with altered properties; David V. Goeddel, et al., 435/69.3, 69.4, 69.52, 69.6, 69.7, 172.3, 189, 195, 215, 216, 226 [IMAGE AVAILABLE]

9. 5,216,126, Jun. 1, 1993, Receptor polypeptides and their production and uses; Edward T. Cox, et al., 530/350, 388.22, 389.1 [IMAGE AVAILABLE]

10. 5,206,161, Apr. 27, 1993, Human plasma carboxypeptidase B; Dennis T. Drayna, et al., 435/212, 69.1 [IMAGE AVAILABLE]

11. 5,045,463, Sep. 3, 1991, DNA expression vector and use thereof; Michael A. Innis, et al., 435/205 [IMAGE AVAILABLE]

12. 4,806,415, Feb. 21, 1989, Method and system for determining the

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            336 800/2?/CCLS
L2            3 L1 AND 800/2?/CCLS

=> d l2 1-3

1.  5,387,756, Feb. 7, 1995, Modification of plant metabolism; Michael M.
Burrell, et al., **800/205**; 435/69.1, 70.1, 172.3, 194; 800/DIG.42
[IMAGE AVAILABLE]

2.  5,270,175, Dec. 14, 1993, Methods and compositions for producing
metabolic products for algae; Benjamin A. Moll, 435/41, 69.1, 70.1, 161,
172.3, 240.2, 320.1, 946; 536/23.2; **800/200**, **205**, DIG.7; 935/14,
23, 35, 67 [IMAGE AVAILABLE]

3.  5,075,229, Dec. 24, 1991, Dietary and hormonal regulation of
expression of exogenous genes in transgenic animals under control of the
promoter of the gene for phosphoenolpyruvate carboxykinase; Richard W.
Hanson, et al., 435/172.3; 514/44; **800/2**, DIG.2; 935/62, 111 [IMAGE
AVAILABLE]

=> set high on
SET COMMAND COMPLETED

=> d l2 kwic

US PAT NO:      5,387,756 [IMAGE AVAILABLE]              L2: 1 of 3
US-CL-CURRENT: **800/205**; 435/69.1, 70.1, 172.3, 194; 800/DIG.42
19:08:19 COPYRIGHT 1997 U.S. Patent & Trademark Office                P0004

US PAT NO:      5,387,756 [IMAGE AVAILABLE]              L2: 1 of 3

DETDESC:

DETD(10)

 A . . . of a pathway enzyme, for example a truncated pathway enzyme.
The pathway enzyme may be, for example, PFK (EC 2.7.1.11), **pyruvate**
**kinase** (PK) (EC 2.7.1.40), acid invertase (EC 3.2.1.26), starch
synthase (EC 2.4.1.21), adenine diphosphoglucose pyrophosphorylase (EC
2.7.7.27), sucrose synthase (EC 2.4.1.13),. . .

DETDESC:

DETD(49)

 These . . . carbon entering glycolysis for a given respiratory flux
and in those plants where PFK activity is increased the enzymes (probably
**pyruvate** **kinase** and PEP carboxylase) that use PEP are strongly
influencing the flux.

=> s l1 and 435/240.4?/ccls
            376 435/240.4?/CCLS
L3            0 L1 AND 435/240.4?/CCLS

=> s l1 and 435/70.1/ccls
            155 435/70.1/CCLS
L4            5 L1 AND 435/70.1/CCLS

19:08:58 COPYRIGHT 1997 U.S. Patent & Trademark Office                P0005
=> d l4 1-5

1.  5,387,756, Feb. 7, 1995, Modification of plant metabolism; Michael M.
Burrell, et al., 800/205; 435/69.1, **70.1**, 172.3, 194; 800/DIG.42
[IMAGE AVAILABLE]
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CS SMITH KLINE FRENCH LAB., WELWYN GARDEN CITY HERTS, ENGL., UK.
SO PHYTOCHEMISTRY (OXF) 1[illegible]7). 1980. 1297-1302. CO[illegible]: PYTCAS ISSN: 0031-9422
LA English

L11 ANSWER 13 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
[illegible]:[illegible]R255C[illegible]Y1[illegible]N02CLEAR PAGE, PLEASETN INTERNATIONAL P0034

L11 ANSWER 13 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
AN 74:134263 BIOSIS
DN BA57:33963
TI ***PYRUVATE*** ***KINASE*** EC-2.1.7.40 OF HIGHER PLANTS.
AU TOMLINSON J D; TURNER J F
SO BIOCHIM BIOPHYS ACTA 329 (1). 1973 128-139. CODEN: BBACAQ ISSN: 0006-3002
LA Unavailable

=> d l11 ab 9 13

L11 ANSWER 9 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
[illegible]:[illegible]R305C[illegible]Y1[illegible]N03CLEAR PAGE, PLEASETN INTERNATIONAL P0035

L11 ANSWER 9 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
AB The content of ATP, ADP, AMP, Pi, the activity of the enzymes involved in the glycolytic pathway, some problems of their regulation by adenine nucleotides and some basic problems connected with tissue energy balance were studied in tobacco plants infected with the ***potato*** virus Y (PVY). The contents of ATP and .SIGMA.AdN were increased in virus-infected tissues when compared with healthy tissues and correlated with the PVY reproduction curve. ADP and AMP contents decreased just after the inoculation and increased at the end of the experimental period, Pi content was not influenced by the infection. The activities of the key enzymes of the glycolytic pathway (6-phosphofructokinase, hexosediphosphatase, and ***pyruvate*** ***kinase***), determined both in crude homogenates and after partial purification, did not differ during the entire experimental period from the values found in healthy control tissues, similarly as the activities of glucosephosphate isomerase, glyceraldehydephosphate dehydrogenase, phosphoglyceromutase and enolase observed in crude homogenates. The unchanging AEC value in virus-infected tissues simultaneously indicated that no change in the rate of the glycolytic pathway occurred even under "in vivo" conditions at the period of the acute stage of infection.

L11 ANSWER 13 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS

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FULL ESTIMATED COST 24.36 102.40

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2798 PYRUVATE
197 KINASE?/AB
3344 KINASE?/BI
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L1 458 PYRUVATE(W)KINASE?/AB,BI

LA English

L11 ANSWER 6 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
AN 91:197353 BIOSIS
DN BR40:94633
TI ISOLATION AND CHARACTERIZATION OF COMPLEMENTARY DNA CLONES FOR THE CYTOSOLIC AND PLASTID ISOZYMES OF ***PYRUVATE*** ***KINASE*** FROM ***POTATO*** AND CASTOR BEAN ENDOSPERM.
AU BLAKELEY S D; DENNIS D T
CS DEP. BIOL., QUEEN'S UNIV., KINGSTON, ONT. K7L 3N6, CAN.
SO SYMPOSIUM ON THE GENETIC DISSECTION OF PLANT CELL PROCESSES HELD AT THE 20TH ANNUAL MEETING OF THE KEYSTONE SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY, KEYSTONE, COLORADO, USA, JANUARY 10-17, 1991. J CELL BIOCHEM SUPPL 0 (15 PART A). 1991. 64. CODEN: JCBSD7
DT Conference
LA English
19:09R405COPY10ND4CLEAR PAGE, PLEASETN INTERNATIONAL P0032

L11 ANSWER 7 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
AN 91:57468 BIOSIS
DN BR40:22823
TI CLONING AND CHARACTERIZATION OF A COMPLEMENTARY DNA FOR THE CYTOSOLIC ISOZYME OF PLANT ***PYRUVATE*** ***KINASE*** THE RELATIONSHIP BETWEEN THE PLANT AND NON-PLANT ENZYME.
AU BLAKELEY S D; PLAXTON W C; DENNIS D T
CS DEP. BIOL., QUEEN'S UNIV., KINGSTON, ONTARIO 7KL 3N6, CAN.
SO PLANT MOL BIOL 15 (4). 1990. 665-670. CODEN: PMBIDB ISSN: 0167-4412
LA English

L11 ANSWER 8 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
AN 90:369440 BIOSIS
DN BR39:53916
TI ISOLATION SEQUENCING AND CHARACTERIZATION OF COMPLEMENTARY DNA CLONES FOR THE CYTOSOLIC ISOZYME OF PLANT ***PYRUVATE*** ***KINASE***
.
AU BLAKELEY S D; DENNIS D T
CS BIOL. DEP., QUEEN'S UNIV., KINGSTON, ONT., CAN.
SO ANNUAL MEETING OF THE AMERICAN SOCIETY OF PLANT PHYSIOLOGISTS, INDIANAPOLIS, INDIANA, USA, JULY 29-AUGUST 2, 1990. PLANT PHYSIOL (BETHESDA) 93 (1 SUPPL.). 1990. 16. CODEN: PLPHAY ISSN: 0032-0889
DT Conference
LA English

L11 ANSWER 9 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
19:00R095COPY10ND5CLEAR PAGE, PLEASETN INTERNATIONAL P0033

L11 ANSWER 9 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
AN 87:150306 BIOSIS
DN BA83:79356
TI THE CONTENT OF ATP ADP AMP INORGANIC PHOSPHATE THE ACTIVITY OF ENZYMES INVOLVED IN THE GLYCOLYTIC PATHWAY AND SOME PROBLEMS OF ITS REGULATION AND ENERGY BALANCE IN TOBACCO PLANTS INFECTED WITH ***POTATO*** VIRUS Y.
AU SINDELAR L
CS INST. EXP. BOTANY, CZECHOSLOVAK ACAD. SCI., NA KARLOVCE I, 160 00 PRAHA 6, CZECH.
SO BIOL PLANT (PRAGUE) 28 (6). 1986 (RECD. 1987). 449-459. CODEN: BPABAJ ISSN: 0006-3134
LA English

L11 ANSWER 10 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
AN 80:288718 BIOSIS
DN BA70:81214
TI IDENTIFICATION OF THE REGULATORY STEPS IN GLYCOLYSIS IN ***POTATO*** SOLANUM TUBEROSUM CULTIVAR RECORD TUBERS.
AU DIXON W L; APREES T

see above

L10 ANSWER 11 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI PHYSICAL CHEMICAL AND ENZYMOLOGICAL CHARACTERIZATION OF ENOL PYRUVATE.

L10 ANSWER 12 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI STEREOCHEMISTRY OF KETONIZATION OF ENOL PYRUVATE BY ***PYRUVATE*** ***KINASE*** EVIDENCE FOR ITS ROLE AS AN INTERMEDIATE.

L10 ANSWER 13 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI ***PYRUVATE*** ***KINASE*** EC-2.1.7.40 OF HIGHER PLANTS.

=> d l11 bib 1 2 4-10 13

L11 ANSWER 1 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
AN 93:164691 BIOSIS
DN BA95:85741
TI STRUCTURE OF THE GENE ENCODING ***POTATO*** CYTOSOLIC ***PYRUVATE*** ***KINASE*** .
AU COLE K P; BLAKELEY S D; DENNIS D T
CS DEP. BIOL., QUEENS UNIV., KINGSTON, ONT. K7L 3N6, CAN.
SO GENE (AMST) 122 (2). 1992. 255-261. CODEN: GENED6 ISSN: 0378-1119
LA English

L11 ANSWER 2 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
[illegible] PAGE, PLEASE[illegible] INTERNATIONAL P0030

L11 ANSWER 2 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
AN 93:32797 BIOSIS
DN BA95:20997
TI NORMAL GROWTH OF TRANSGENIC TOBACCO PLANTS IN THE ABSENCE OF CYTOSOLIC ***PYRUVATE*** ***KINASE*** .
AU GOTTLOB-MCHUGH S G; SANGWAN R S; BLAKELEY S D; VANLERBERGHE G C; KO K; TURPIN D H; PLAXTON W C; MIKI B L; DENNIS D T
CS DEP. BIOLOGY, QUEEN'S UNIV., KINGSTON, ONTARIO K7L 3N6, CAN.
SO PLANT PHYSIOL (BETHESDA) 100 (2). 1992. 820-825. CODEN: PLPHAY ISSN: 0032-0889
LA English

L11 ANSWER 4 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
AN 91:506351 BIOSIS
DN BA92:129311
TI CONTRASTING ROLES FOR PYROPHOSPHATE FRUCTOSE-6-PHOSPHATE PHOSPHOTRANSFERASE DURING AGING OF TISSUE SLICES FROM ***POTATO*** TUBERS AND CARROT STORAGE TISSUES.
AU HAJIREZAEI M; STITT M
CS LEHRSTUHL PFLANZENPHYSIOLOGIE, UNIV. BAYREUTH, 8580 BAYREUTH, WEST GERMANY.
SO PLANT SCI (LIMERICK) 77 (2). 1991. 177-184. CODEN: PLSCE4 ISSN: 0168-9452
LA English

L11 ANSWER 5 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
[illegible] PAGE, PLEASE[illegible] INTERNATIONAL P0031

L11 ANSWER 5 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
AN 91:197361 BIOSIS
DN BR40:94641
TI GENOMIC ANALYSIS OF CYTOSOLIC AND PLASTID ***PYRUVATE*** ***KINASE*** FROM ***POTATO*** AND CASTOR BEAN.
AU COLE K P; BLAKELEY S D; DENNIS D T
CS DEP. BIOL., QUEEN'S UNIV., KINGSTON, ONT. K7L 3N6, CAN.
SO SYMPOSIUM ON THE GENETIC DISSECTION OF PLANT CELL PROCESSES HELD AT THE 20TH ANNUAL MEETING OF THE KEYSTONE SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY, KEYSTONE, COLORADO, USA, JANUARY 10-17, 1991. J CELL BIOCHEM SUPPL 0 (15 PART A). 1991. 67. CODEN: JCBSD7
DT Conference

```
AB  IS NOT A VALID FIELD CODE
            0 PYRUVATE/AB
        26447 PYRUVATE/BI
            0 KINASE?/AB
       107058 KINASE?/BI
         5644 (PYRUVATE(W)KINASE?)/AB,BI
            0 POTATO?/AB
        32413 POTATO?/BI
L10        13 L1 AND POTATO?/AB,BI

=> s l10 not l9
L11        13 L10 NOT L9

=> d l11 ti

L11  ANSWER 1 OF 13  BIOSIS  COPYRIGHT 1995 BIOSIS
TI  STRUCTURE OF THE GENE ENCODING   ***POTATO***   CYTOSOLIC
    ***PYRUVATE***     ***KINASE***  .

=> d l10 2-13 ti

L10  ANSWER 2 OF 13  BIOSIS  COPYRIGHT 1995 BIOSIS
TI  NORMAL GROWTH OF TRANSGENIC TOBACCO PLANTS IN THE ABSENCE OF
    CYTOSOLIC   ***PYRUVATE***     ***KINASE***  .

L10  ANSWER 3 OF 13  BIOSIS  COPYRIGHT 1995 BIOSIS
TI  GLYCOGEN BREAKDOWN IN CLEAVING XENOPUS EMBRYOS IS LIMITED BY ADP.

L10  ANSWER 4 OF 13  BIOSIS  COPYRIGHT 1995 BIOSIS
29:0PR595C09Y0AND4CLEAR PAGE, PLEASETN INTERNATIONAL                P0028

L10  ANSWER 4 OF 13  BIOSIS  COPYRIGHT 1995 BIOSIS
TI  CONTRASTING ROLES FOR PYROPHOSPHATE FRUCTOSE-6-PHOSPHATE
    PHOSPHOTRANSFERASE DURING AGING OF TISSUE SLICES FROM   ***POTATO***
    TUBERS AND CARROT STORAGE TISSUES.

L10  ANSWER 5 OF 13  BIOSIS  COPYRIGHT 1995 BIOSIS
TI  GENOMIC ANALYSIS OF CYTOSOLIC AND PLASTID   ***PYRUVATE***
    ***KINASE***   FROM   ***POTATO***   AND CASTOR BEAN.

L10  ANSWER 6 OF 13  BIOSIS  COPYRIGHT 1995 BIOSIS
TI  ISOLATION AND CHARACTERIZATION OF COMPLEMENTARY DNA CLONES FOR THE
    CYTOSOLIC AND PLASTID ISOZYMES OF   ***PYRUVATE***     ***KINASE***
    FROM   ***POTATO***   AND CASTOR BEAN ENDOSPERM.

L10  ANSWER 7 OF 13  BIOSIS  COPYRIGHT 1995 BIOSIS
TI  CLONING AND CHARACTERIZATION OF A COMPLEMENTARY DNA FOR THE CYTOSOLIC
    ISOZYME OF PLANT   ***PYRUVATE***     ***KINASE***   THE RELATIONSHIP
    BETWEEN THE PLANT AND NON-PLANT ENZYME.

L10  ANSWER 8 OF 13  BIOSIS  COPYRIGHT 1995 BIOSIS
TI  ISOLATION SEQUENCING AND CHARACTERIZATION OF COMPLEMENTARY DNA CLONES
    FOR THE CYTOSOLIC ISOZYME OF PLANT   ***PYRUVATE***     ***KINASE***
    .

L10  ANSWER 9 OF 13  BIOSIS  COPYRIGHT 1995 BIOSIS
TI  THE CONTENT OF ATP ADP AMP INORGANIC PHOSPHATE THE ACTIVITY OF
    ENZYMES INVOLVED IN THE GLYCOLYTIC PATHWAY AND SOME PROBLEMS OF ITS
    REGULATION AND ENERGY BALANCE IN TOBACCO PLANTS INFECTED WITH
    ***POTATO***   VIRUS Y.
29:0BR095C09Y0AND4CLEAR PAGE, PLEASETN INTERNATIONAL                P0029

L10  ANSWER 10 OF 13  BIOSIS  COPYRIGHT 1995 BIOSIS
TI  IDENTIFICATION OF THE REGULATORY STEPS IN GLYCOLYSIS IN
    ***POTATO***   SOLANUM TUBEROSUM CULTIVAR RECORD NUMBERS.
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120956 TRANSFORM?/BI
L9 13 L3 AND TRAN[redacted]RM?/AB,BI

=> d 19 1-13 ti
19:00:05 COPY AND CLEAR PAGE, PLEASE TN INTERNATIONAL P0025

L9 ANSWER 1 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI Construction, expression and characterization of a ***plasmid*** -encoded Na+-specific ATPase hybrid consisting of Propionigenium modestum F-O-ATPase and Escherichia coli F-1-ATPase.

L9 ANSWER 2 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI ***Transformation*** of Trichoderma reesei based on hygromycin B resistance using homologous expression signals.

L9 ANSWER 3 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI THE ISOLATION AND CHARACTERIZATION OF THE ***PYRUVATE*** ***KINASE*** -ENCODING GENE FROM THE YEAST YARROWIA-LIPOLYTICA.

L9 ANSWER 4 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI REGULATION OF FITNESS IN YEAST OVEREXPRESSING GLYCOLYTIC ENZYMES RESPONSES TO HEAT SHOCK AND NITROGEN STARVATION.

L9 ANSWER 5 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI ISOLATION AND CHARACTERIZATION OF THE ASPERGILLUS-NIGER ***PYRUVATE*** ***KINASE*** GENE.

L9 ANSWER 6 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI REGULATION OF FITNESS IN YEAST OVEREXPRESSING GLYCOLYTIC ENZYMES PARAMETERS OF GROWTH AND VIABILITY.

L9 ANSWER 7 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI MULTIPLE COPIES OF THE ***PYRUVATE*** ***KINASE*** GENE AFFECT YEAST CELL GROWTH.
19:00:05 COPY AND CLEAR PAGE, PLEASE TN INTERNATIONAL P0026

L9 ANSWER 8 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI EXPRESSION OF A YEAST GLYCOLYTIC GENE IS SUBJECT TO DOSAGE LIMITATION.

L9 ANSWER 9 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI ISOLATION AND ***TRANSFORMATION*** OF THE ***PYRUVATE*** ***KINASE*** GENE OF ASPERGILLUS-NIDULANS.

L9 ANSWER 10 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI BIOCHEMICAL HETEROGENEITY OF IN-VITRO ***TRANSFORMED*** SWISS-3T3 CELL CULTURES.

L9 ANSWER 11 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI MOLECULAR CLONING OF COMPLEMENTARY DNA FOR RAT L TYPE ***PYRUVATE*** ***KINASE*** EC-2.7.1.40 AND ALDOLASE B EC-4.1.2.13.

L9 ANSWER 12 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI MOLECULAR CLONING OF DNA COMPLEMENTARY TO RAT L TYPE ***PYRUVATE*** ***KINASE*** MESSENGER RNA NUTRITIONAL AND HORMONAL REGULATION OF L TYPE ***PYRUVATE*** ***KINASE*** EC 2.7.1.40 MESSENGER RNA CONCENTRATION.

L9 ANSWER 13 OF 13 BIOSIS COPYRIGHT 1995 BIOSIS
TI ISOLATION CHARACTERIZATION AND SEQUENCE OF THE ***PYRUVATE*** ***KINASE*** GENE OF SACCHAROMYCES-CEREVISIAE.

=> s 15
19:00:58 COPY AND CLEAR PAGE, PLEASE TN INTERNATIONAL P0027

AN 98:135781 CA
TI The isolation, characterization, and sequence of the ***pyruvate*** ***kinase*** gene of Saccharomyces cerevisiae
AU Burke, Rae Lyn; Tekamp-Olson, Patricia; Najarian, Richard
CS Chiron Corp., Emeryville, CA, 94608, USA
SO J. Biol. Chem. (1983), 258(4), 2193-201
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
19:00185COPY00ND0CLEAR PAGE, PLEASSTN INTERNATIONAL P0023

L7 ANSWER 20 OF 20 CA COPYRIGHT 1995 ACS

=> s l2 and agrobacterium/ab,bi
3231 AGROBACTERIUM/AB
4801 AGROBACTERIUM/BI
L8 2 L2 AND AGROBACTERIUM/AB,BI

=> d l8 1-2 ti py

L8 ANSWER 1 OF 2 CA COPYRIGHT 1995 ACS
TI Plants with reduced susceptibility to plant-parasitic nematodes
PY 1994

L8 ANSWER 2 OF 2 CA COPYRIGHT 1995 ACS
TI Transgenic plants with modified metabolism.
PY 1992

=> file biosis
COST IN U.S. DOLLARS SINCE FILE ENTRY 77.26 TOTAL SESSION 78.04

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE ENTRY -3.36 TOTAL SESSION -3.36

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FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 11 April 1995 (950411/ED)
CAS REGISTRY NUMBERS (R) LAST ADDED: 12 April 1995 (950412/UP)

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=> s l4
'AB' IS NOT A VALID FIELD CODE
0 PYRUVATE/AB
26447 PYRUVATE/BI
0 KINASE?/AB
107058 KINASE?/BI
5644 (PYRUVATE(W)KINASE?)/AB,BI
0 PLASMID?/AB
48472 PLASMID?/BI
0 VECTOR?/AB
45698 VECTOR?/BI
0 CLONE?/AB
92340 CLONE?/BI

TI Isolation and ***transformation*** of the ***pyruvate***
kinase gene of Aspergillus nidulans
AU De Graaff, Leo; Van d[redacted] Broek, Henk; Visser, Jaa[redacted]
CS Dep. Genet., Agric. Univ., Wageningen, NL-6703 BM, Neth.
SO Curr. Genet. (1988), 13(4), 315-21
CODEN: CUGED5; ISSN: 0172-8083
DT Journal
LA English

L7 ANSWER 17 OF 20 CA COPYRIGHT 1995 ACS
AB A method for enhancing the prodn. of heterologous proteins in fungi
ST:0[redacted]105C09Y00ND5CLEAR PAGE, PLEASETN INTERNATIONAL P0021

L7 ANSWER 17 OF 20 CA COPYRIGHT 1995 ACS
by recombinant DNA techniques involves fusion of a gene encoding a heterologous protein produced in large amt. and in stable form in the host to a sequence encoding a desired heterologous protein, where the hybrid proteins produced are joined by a selectively cleavable linkage. ***Plasmid*** pYASI1 was constructed which contains the human superoxide dismutase gene fused to the amino terminus of the human proinsulin gene, with a methionine codon at the junction, under the control of the hybrid inducible ADH2-GAP promoter and the GAP terminator. The fusion protein produced by ***yeast*** ***transformants*** accounts for .gtoreq.10% of the total cell protein. After cleavage of the hybrid protein at the methionine junction using CNBr and formic acid in water, the proinsulin was converted to its S-sulfonate form in the presence of urea, Na sulfite, and Na tetrathionate, and was purified on an ion-exchange column. Proinsulin-S-sulfonate obtained was 90% pure, and the yield was 150 mg protein/124 g ***yeast*** .
AN 106:28521 CA
TI Improved expression using fused genes providing for protein product
IN Cousens, Lawrence S.; Tekamp-Olson, Patricia A.; Shuster, Jeffrey R.; Merryweather, James P.
PA Chiron Corp., USA
SO Eur. Pat. Appl., 36 pp.
CODEN: EPXXDW
PI EP 196056 A2 861001
DS R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE
AI EP 86-104066 860325
PRAI US 85-717209 850328
DT Patent
LA English
ST:0[redacted]455C09Y00ND2CLEAR PAGE, PLEASETN INTERNATIONAL P0022

L7 ANSWER 17 OF 20 CA COPYRIGHT 1995 ACS

L7 ANSWER 20 OF 20 CA COPYRIGHT 1995 ACS
AB The S. cerevisiae gene encoding the glycolytic enzyme ***pyruvate*** ***kinase*** [9001-59-6] was isolated by complementation of a pyk mutant with DNA from a wild type ***yeast*** genomic library. ***Pyruvate*** ***kinase*** activity is 20-fold higher in the ***transformant*** than in the parental strain and is glucose-inducible. The ***cloned*** gene was localized by hybridization of DNA fragments to ***yeast*** poly(A)+ RNA and by complementation of the mutant defect with select subclones. A DNA sequence of 2885 nucleotides encoding a protein of 499 amino acids is reported. A polypeptide chain of 34 residues of the deduced ***yeast*** amino acid sequence closely resembles a peptide sequence at the ADP-binding site of bovine muscle ***pyruvate*** ***kinase*** . The 5' end of the ***pyruvate*** ***kinase*** mRNA was mapped and starts within the DNA sequence CAAG at -38 to -27 nucleotides upstream from the 1st ATG. The sequence PyAAPu (Pu = purine; Py = pyrimidine) in this region appears to be a common consensus site for ***yeast*** RNA polymerase II transcriptional starts.

PI JP 63112984 A2 880518 Showa
AI JP 87-108384 870501
DT Patent
LA Japanese

L7 ANSWER 13 OF 20 CA COPYRIGHT 1995 ACS
AB ***Plasmid*** pKY54 is constructed contg. the promoter and terminator of the ***yeast*** ***pyruvate*** ***kinase*** (PK) gene for use in foreign gene expression in ***yeast*** . The DNA fragment flanking the 5' end of the PK structural gene was isolated from a Saccharomyces cerevisiae genomic library. The downstream end of this fragment was inserted in ***plasmid*** pKY51 (in which the PK gene promoter fragment lacked the
19:0PR285COPY0ANB1CLEAR PAGE, PLEASSTN INTERNATIONAL P0019

L7 ANSWER 13 OF 20 CA COPYRIGHT 1995 ACS
corresponding downstream sequence) to give ***plasmid*** pKY54 contg. (from the 5' end) the PK gene promoter, a BamHI site, and the PK gene terminator. Insertion of apolipoprotein E (APE) gene in the BamHI site yielded ***plasmid*** pKY54APEd. S. cerevisiae ***Transformed*** with this ***plasmid*** produced 3 times more APE than those ***transformed*** with pKY51 contg. APE gene insert.
AN 109:123809 CA
TI Construction of ***plasmid*** containing ***yeast*** ***pyruvate*** ***kinase*** gene promoter and terminator for expression of heterologous genes in ***yeast***
IN Araki, Reiko; Nishizawa, Masabumi; Teranishi, Yutaka
PA Mitsubishi Chemical Industries Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
PI JP 63112984 A2 880518 Showa
AI JP 86-259651 861031
DT Patent
LA Japanese

L7 ANSWER 14 OF 20 CA COPYRIGHT 1995 ACS
AB The A. nidulans ***pyruvate*** ***kinase*** gene was isolated by heterologous hybridization using the corresponding ***yeast*** gene as a probe. A 2.9 kb EcoRI/BamHI fragment, which exclusively hybridized to the ***yeast*** gene, was subcloned in pBR322. This ***clone*** was used to ***transform*** an A. nidulans pkiA deletion mutant to PKI+. The anal. of ***transformants*** with respect to the kind of integration revealed about 80% homologous integration: 55% by a double
19:0PR585COPY0AND6CLEAR PAGE, PLEASSTN INTERNATIONAL P0020

L7 ANSWER 14 OF 20 CA COPYRIGHT 1995 ACS
cross-over event (type III integration), 25% by a single cross-over event (type I integration). Type II ***transformants*** (20%) that arise by non-homologous integration have not been further characterized with respect to the sites of integration. A direct correlation between the no. of copies of the gene integrated into the genome and the measured ***pyruvate*** ***kinase*** activity was found after growth on a glycolytic carbon source. From this, it was concluded that the 2.9 kb EcoRI/BamHI fragment contains the complete ***pyruvate*** ***kinase*** structural gene, including the promoter region. However, after growth on a gluconeogenic carbon source, the regulation of gene expression was found to be disturbed. On acetate an increase in activity per gene copy (0.2 IU) was found in the ***transformants*** , as compared with wild-type levels. It is suggested that the ***pyruvate*** ***kinase*** gene is regulated by neg. control, and that some sequences involved in this regulation are missing in the ***cloned*** fragme
AN 109:49532 CA

✓ 4/27/05 DJF

L12 ANSWER 3 OF 6

TI RIBOSOMAL DNA METHYLATION IN A FLAX GENOTROPH AND A CROWN GALL TUMOR.

L12 ANSWER 4 OF 6

TI CHARACTERIZATION OF THE T-REGION OF THE SUCCINAMOPINE-TYPE TI-PLASMID PT-IAT-181 IDENTIFICATION OF A GENE INVOLVED IN SUCCINAMOPINE SYNTHESIS.

L12 ANSWER 5 OF 6

TI THE USE OF PNJ-5000 AS AN INTERMEDIATE VECTOR FOR THE GENETIC MANIPULATION OF AGROBACTERIUM TI-PLASMIDS.

L12 ANSWER 6 OF 6

TI NOPALINE TI PLASMID PTIT-37 TUMOR DNA INSERTIONS INTO A FLAX LINUM-USITATISSIMUM GENOME.

=> d l12 1 ab bib

L12 ANSWER 1 OF 6

13:NOV401COPY1@NB0CLEAR PAGE, PLEASBTN INTERNATIONAL P0063

L12 ANSWER 1 OF 6

AN 90:440889 BIOSIS
DN BR39:88750
TI ALTERATION IN GLYCOLYTIC INTERMEDIATES BY GENETIC MANIPULATION OF PHOSPHOFRUCTOKINASE.
AU MOONEY P; ***BLUNDY K*** ; BLUNDY M; CARTER D; WILSON F; BURRELL M
CS ADVANCED TECHNOL. LIMITED, 210 CAMBRIDGE SCIENCE PARK, CAMBRIDGE CB4 4WA, UK.
SO 7TH CONGRESS OF THE FEDERATION OF EUROPEAN SOCIETIES OF PLANT PHYSIOLOGY, UMEA, SWEDEN, AUGUST 5-10, 1990. PHYSIOL PLANT 79 (2 PART 2). 1990. A59. CODEN: PHPLAI ISSN: 0031-9317
DT Conference
LA English

=> file ca

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	31.84	122.36

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-5.44

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COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.36	0.36

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13:MOV591COPY4ONO5CLEAR PAGE, PLEASSTN INTERNATIONAL P0002
For OFFLINE Prints or Displays, use the ABS or ALL formats to obtain abstract graphic structures. The AB format DOES NOT display structure diagrams.

=> s phosphofructokinase/ab,bi
3782 PHOSPHOFRUCTOKINASE/AB
2557 PHOSPHOFRUCTOKINASE/BI
L1 4272 PHOSPHOFRUCTOKINASE/AB,BI

=> s l1 and (potato or solanum)/ab,bi
15193 POTATO/AB
15842 POTATO/BI
1575 SOLANUM/AB
2476 SOLANUM/BI
L2 27 L1 AND (POTATO OR SOLANUM)/AB,BI

=> d l2 1-27 ti py

L2 ANSWER 1 OF 27

TI A study of effects of sprout inhibitors isopropyl N-(3-chlorophenyl) carbamate and maleic hydrazide on ATP and PPi-dependent phosphofructokinases and sugars during storage of selected potato cultivars
PY 1990

L2 ANSWER 2 OF 27

13:MOV201COPY4ONB9CLEAR PAGE, PLEASSTN INTERNATIONAL P0003

L2 ANSWER 2 OF 27

TI Phosphofructokinase in relation to sugar accumulation in cold-stored potato tubers
PY 1991

L2 ANSWER 3 OF 27

TI Respiratory enzyme activity in low-temperature sweetening of susceptible and resistant potatoes
PY 1990

L2 ANSWER 4 OF 27

TI Pyrophosphate-dependent phosphofructokinase. Conservation of protein sequence between the .alpha.- and .beta.-subunits and with the ATP-dependent phosphofructokinase

PY 1990

L2 ANSWER 5 OF 27
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TI Activation of mammalian phosphofructokinases by ribose 1,5-bisphosphate
PY 1990
1B:MGV301COPY4GNB0CLEAR PAGE, PLEASSTN INTERNATIONAL P0004

L2 ANSWER 6 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Evolution of phosphofructokinase
PY 1989

L2 ANSWER 7 OF 27
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TI Molecular, kinetic, and immunological properties of the 6-phosphofructokinase from the green alga Selenastrum minutum. Activation during biosynthetic carbon flow
PY 1990

L2 ANSWER 8 OF 27
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TI Effect of low temperature on the activity of phosphofructokinase from potato tubers
PY 1990

L2 ANSWER 9 OF 27
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TI Proline metabolism in Solanum tuberosum cell suspension cultures under water stress
PY 1989
1B:MGV591COPY4AND1CLEAR PAGE, PLEASSTN INTERNATIONAL P0005

L2 ANSWER 10 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Effects of low temperature on the respiratory metabolism of carbohydrates by plants
PY 1988

L2 ANSWER 11 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Molecular characterization of four forms of phosphofructokinase purified from potato tuber
PY 1988

L2 ANSWER 12 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Inorganic pyrophosphate:fructose-6-phosphate 1-phosphotransferase of the potato tuber is related to the major ATP-dependent phosphofructokinase of E. coli
PY 1988

L2 ANSWER 13 OF 27
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TI Molecular comparison of pyrophosphate- and ATP-dependent fructose 6-phosphate 1-phosphotransferases from potato tuber

PY 1988
1B:M0V191C0@Y4ANB2CLEAR PAGE, PLEASETN INTERNATIONAL P0006

L2 ANSWER 14 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Immunological characterization of the pyrophosphate dependent fructose-6-phosphate phosphotransferase
PY 1988

L2 ANSWER 15 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Electrophoretic determination of fructose 6-phosphate,2-kinase
PY 1988

L2 ANSWER 16 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI ATP- and pyrophosphate-dependent phosphofructokinase activity and reducing sugar content in potatoes as influenced by reconditioning and isopropyl-m-chlorocarbanilate
PY 1987

L2 ANSWER 17 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Enzymes of the pentose phosphate pathway in callus-forming potato tuber disks grown at various temperatures
PY 1987
1B:M0V381C0@Y4BNB0CLEAR PAGE, PLEASETN INTERNATIONAL P0007

L2 ANSWER 18 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI A preliminary study of PFP in germinating potatoes
PY 1986

L2 ANSWER 19 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Fructose 2,6-bisphosphate in rat erythrocytes. Inhibition of fructose 2,6-bisphosphate synthesis and measurement by glycerate 2,3-bisphosphate
PY 1987

L2 ANSWER 20 OF 27
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TI The content of ATP, ADP, AMP, inorganic phosphate, the activity of enzymes involved in the glycolytic pathway and some problems of its regulation, and energy balance in tobacco plants infected with potato virus Y
PY 1986

L2 ANSWER 21 OF 27
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TI Effects of temperature and chloropropham on phosphofructokinase, mitochondrial respiration and reducing sugars in dormant Nooksack potato tubers
PY 1985
1B:M0V001C0@Y4BNB3CLEAR PAGE, PLEASETN INTERNATIONAL P0008

L2 ANSWER 21 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

L2 ANSWER 22 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Sugar metabolism in developing tubers of Solanum tuberosum
PY 1986

L2 ANSWER 23 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Cold-lability of phosphofructokinase from potato tubers
PY 1981

L2 ANSWER 24 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Identification of the regulatory steps in glycolysis in potato tubers
PY 1980

L2 ANSWER 25 OF 27
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TI Carbohydrate metabolism in broom rape, an angiospermic 'total' parasite
PY 1978
1[illegible]:[illegible]CLEAR PAGE, PLEASE]STN INTERNATIONAL P0009

L2 ANSWER 26 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Activities of enzymes of sugar metabolism in cold-stored tubers of Solanum tuberosum
PY 1975

L2 ANSWER 27 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Phosphofructokinase of Solanum tuberosum tuber
PY 1973

=) s l2 and (gene or genes or plasmid? or vector? or agrobacterium)/ab,bi
106321 GENE/AB
139920 GENE/BI
54945 GENES/AB
35911 GENES/BI
36939 PLASMID?/AB
25992 PLASMID?/BI
45850 VECTOR?/AB
12931 VECTOR?/BI
1914 AGROBACTERIUM/AB
2451 AGROBACTERIUM/BI
L3 2 L2 AND (GENE OR GENES OR PLASMID? OR VECTOR? OR AGROBACTERIUM)/AB,BI

=) d l3 1-2 ti py
1[illegible]:[illegible]CLEAR PAGE, PLEASE]STN INTERNATIONAL P0010

L3 ANSWER 1 OF 2
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Pyrophosphate-dependent phosphofructokinase. Conservation of protein sequence between the .alpha.- and .beta.-subunits and with the ATP-dependent phosphofructokinase
PY 1990

PY 1990

L7 ANSWER 12 OF 20 CA COPYRIGHT 1995 ACS
TI Glycolytic enzyme gene promoter in protein manufacture with recombinant ***yeast***
PY 1988

L7 ANSWER 13 OF 20 CA COPYRIGHT 1995 ACS
TI Construction of ***plasmid*** containing ***yeast*** ***pyruvate*** ***kinase*** gene promoter and terminator for expression of heterologous genes in ***yeast***
PY 1988

L7 ANSWER 14 OF 20 CA COPYRIGHT 1995 ACS
TI Isolation and ***transformation*** of the ***pyruvate*** ***kinase*** gene of Aspergillus nidulans
PY 1988
19:00185COPY00NB0CLEAR PAGE, PLEASETN INTERNATIONAL P0017

L7 ANSWER 15 OF 20 CA COPYRIGHT 1995 ACS
TI Signal sequence of human preproparathyroid hormone is inactive in ***yeast***
PY 1987

L7 ANSWER 16 OF 20 CA COPYRIGHT 1995 ACS
TI ***Yeast*** promoters
PY 1987

L7 ANSWER 17 OF 20 CA COPYRIGHT 1995 ACS
TI Improved expression using fused genes providing for protein product
PY 1986

L7 ANSWER 18 OF 20 CA COPYRIGHT 1995 ACS
TI Human natural inhibitor of collagenases
PY 1986

L7 ANSWER 19 OF 20 CA COPYRIGHT 1995 ACS
TI ***Yeast*** expression systems with ***vectors*** having GAPDH or PyK promoters, and synthesis of foreign proteins
PY 1984

L7 ANSWER 20 OF 20 CA COPYRIGHT 1995 ACS
TI The isolation, characterization, and sequence of the ***pyruvate*** ***kinase*** gene of Saccharomyces cerevisiae
PY 1983

=) d 17 12-14 17 20 ab bib
19:00295COPY00ND6CLEAR PAGE, PLEASETN INTERNATIONAL P0018

L7 ANSWER 12 OF 20 CA COPYRIGHT 1995 ACS
AB A method of manufg. a protein is disclosed comprising expression of the gene from a promoter of a ***yeast*** glycolytic enzyme gene in a recombinant ***yeast*** cultivated in a medium for non-EtOH fermn. ***Plasmid*** pKY54AP3 encoding human apoprotein E (II) with the I promoter located usptream was constructed. The ***transformed*** Saccharomyces cerevisiae was cultured in a medium contg. (0.01% glucose (non-EtOH fermn. condition) for 52 h until the OD610 reached 80. The prodn. of II was induced by increasing the glucose concn. to 50 g/L.
AN 111:72524 CA
TI Glycolytic enzyme gene promoter in protein manufacture with recombinant ***yeast***
IN Matsui, Yasushi; Teranishi, Yutaka
PA Mitsubishi Kasei Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

L3 ANSWER 2 OF 2
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Evolution of phosphofructokinase
PY 1989

=> d l3 1-2 ab bib

L3 ANSWER 1 OF 2
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AB Full-length cDNA clones for the .alpha.- and .beta.-subunits of pyrophosphate-fructose 6-phosphate 1-phosphotransferase have been isolated from a cDNA expression library derived from potato tuber poly(A)+ RNA. The nucleotide sequences indicate that the .alpha.- and .beta.-subunits are related with .apprx.40% of amino acid residues being identical. A comparison of the deduced amino acid sequences of both subunits of this enzyme with that of the major ATP-dependent fructose 6-phosphate 1-phosphotransferase from Escherichia coli showed little homol. between the proteins except for regions involved in the binding of fructose 6-phosphate/fructose, 1,6-bisphosphate, and possibly between regions
1[illegible] P0011

L3 ANSWER 1 OF 2
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binding pyrophosphate and the .beta.- and .gamma.-phosphates of ADP/ATP. A comparison of the derived secondary structures of the two subunits of the PPi-dependent enzyme with the known secondary structure of the E. coli ATP-dependent enzyme indicated that the overall structure of these enzymes is similar. These data suggest that catalytic activity resides on the .beta.-subunit of the pyrophosphate-dependent enzyme.
AN CA114(17):159761t
TI Pyrophosphate-dependent phosphofructokinase. Conservation of protein sequence between the .alpha.- and .beta.-subunits and with the ATP-dependent phosphofructokinase
AU Carlisle, Sara M.; Blakeley, Stephen D.; Hemmingsen, Sean M.; Trevanion, Stephen J.; Hiyoshi, Toru; Kruger, Nicholas J.; Dennis, David T.
CS Dep. Biol., Queen's Univ.
LO Kingston, ON K7L 3N6, Can.
SO J. Biol. Chem., 265(30), 18366-71
SC 7-5 (Enzymes)
SX 3, 11
DT J
CO JBCHA3
IS 0021-9258
PY 1990
LA Eng

L3 ANSWER 2 OF 2
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1[illegible] P0012

L3 ANSWER 2 OF 2
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AB Comparative sequence data suggest that mammalian phosphofructokinase (PFK) has evolved from a prokaryotic precursor by gene duplication, fusion, and mutation of previous catalytic sites into new regulatory ligand binding sites. Two approaches are used to examine this problem. These events are duplicated by recombinant DNA technol. A synthetic oligonucleotide that matches the mammalian [illegible]nk peptide was used to rejoin 2 Esch[illegible]ichia coli PFK genes. The [illegible]roduct was analyzed and mutagenized. In the second approach, two unique PKFs,

a potato enzyme and one from Propionibacterium, were studied to det. their evolutionary path. Despite great overall mol. differences, antibody data suggest similarities among the various PFKs.
AN CA113(19):166487r
TI Evolution of phosphofructokinase
AU Kemp, R. G.
CS Med. Sch., Univ. Health Sci.
LO Chicago, IL, USA
SO Report, Order No. AD-A211741, 4 pp. Avail. NTIS From: Gov. Rep. Announce. Index (U. S.) 1989, 89(24), Abstr. No. 965,131
SC 3-3 (Biochemical Genetics)
SX 7, 13
DT T
PY 1989
LA Eng

=) d 12 3 8 10-12 16-17 21 ab bib
1?:[illegible]PY4[illegible]5CLEAR PAGE, PLEASSTN INTERNATIONAL P0013

L2 ANSWER 3 OF 27

AB During storage at 4.degree. and 12.degree., a potato cultivar susceptible to chill-sweetening (Norchip) accumulated significantly higher levels of sucrose, fructose and glucose than a potato selection resistant to chill-sweetening (ND 860-2). ND 860-2 tubers exhibited a significantly higher respiration rate throughout storage, reflected in higher activities of phosphofructokinase, glucose-6-phosphate dehydrogenase (G6PDH) and 6-phosphogluconate dehydrogenase. Storage significantly reduced respiration rate for both cultivars. G6PDH showed no significant difference in specific activity or Vmax between 4.degree. and 12.degree. for either cultivar. However, Km decreased at 4.degree. for both cultivars, possibly due to buildup of substrate.
AN CA115(1):7304d
TI Respiratory enzyme activity in low-temperature sweetening of susceptible and resistant potatoes
AU Barichello, Valerie; Yada, Rickey Y.; Coffin, Robert H.; Stanley, David W.
CS Dep. Food Sci., Univ. Guelph
LO Guelph, ON N1G 2W1, Can.
SO J. Food Sci., 55(4), 1060-3
SC 17-10 (Food and Feed Chemistry)
DT J
CO JFDSAZ
IS 0022-1147
PY 1990
LA Eng
1?:[illegible]PY4[illegible]1CLEAR PAGE, PLEASSTN INTERNATIONAL P0014

L2 ANSWER 8 OF 27

AB The cold-lability of phosphofructokinase (EC 2.7.1.11) from tubers of potato cultivars (cvs.) differing in their propensity to accumulate sugars at low temp. was compared. When stored at 4.degree. for 6 wk, the sugar content of tubers of Solanum tuberosum cv. Record doubled whereas the amt. of sugar in tubers of cv. Brodick and an advanced breeding clone (13676) decreased slightly. Tubers from each line contained 4 forms of phosphofructokinase. Over the range 12-16.degree. the temp. coeffs. of the 4 forms of phosphofructokinase from cvs. Record and Brodick were similar.. In cv. Record, the temp. coeffs. of 4 of the enzyme forms were significantly higher at 2-6.degree. than at 12-16.degree., whereas those from cv. Brodick were unchanged. These results are consistent

with the proposal that inactivation of phosphofructokinase at low temp. results in the accumulation of hexose phosphates leading to increased sucrose synthesis.

AN CA112(21):195349g

TI Effect of low temperature on the activity of phosphofructokinase from potato tubers

AU Hammond, John B. W.; Burrell, Michael M.; Kruger, Nicholas J.

CS Dep. Biochem. Physiol., AFRC Inst. Arable Crops Res. Harpenden/Herts. AL5 2JQ, UK

SO Planta, 180(4), 613-16

SC 11-2 (Plant Biochemistry)

SX 7

DT J

CO PLANAB

IS 0032-0935

1B:HBV191COPY4ANB8CLEAR PAGE, PLEASSTN INTERNATIONAL P0015

L2 ANSWER 8 OF 27

PY 1990

LA Eng

L2 ANSWER 10 OF 27

AB The effects of lowering the temp. from 25.degree. to 2-8.degree. on carbohydrate metab. by plant cells are considered. Particular emphasis is placed on the mechanism of cold-induced sweetening in tubers of potato (Solanum tuberosum). Temps. between 0 and 10.degree. caused a marked redn. in the rate of respiration of a wide range of plant tissues. At these temps. the ability of suspension cultures of soybean (Glycine max), and callus cultures and tubers of potato to metabolize [14C]glucose was appreciably diminished. The detailed distribution of 14C showed that lowering the temp. decreased the proportion of the metabolized [14C]glucose that entered the respiratory pathways and increased the proportion converted to sucrose. Pulse and chase expts., in which [14C]glucose was supplied to potato tubers at 2 and 25.degree., showed that lowering the temp. led to accumulation of label in hexose 6-phosphates, which were subsequently converted to sucrose. The patterns of 14CO2 prodn. from specifically labeled [14C]glucose supplied to soybean suspension cultures and disks of potato tuber suggested that lowering the temp. reduced the activity of glycolysis more than that of the oxidative pentose phosphate pathway. Apparently, lowering the temp. not only reduces the rate of carbohydrate metab. but also alters the relative activities of the different pathways involved. A disproportionate redn. in glycolysis

1B:HBV381COPY50ND7CLEAR PAGE, PLEASSTN INTERNATIONAL P0016

L2 ANSWER 10 OF 27

at the lower temps. is suggested. Mature tubers of many varieties of potato accumulate sucrose and hexose when stored between 2 and 10.degree.. Starch is the source of C for this synthesis of sugar. Cytosolic fructose-1,6-bisphosphtase could not be detected in potato tubers. Apparently, C for sugar synthesis in the cold leaves the amyloplast, not as triose phosphate, but probably as a 6-C compd. Evidence is presented that phosphofructokinase (PFK) plays a major role in regulating the entry of hexose 6-phosphates into glycolysis in potato tubers. PFK was purified from potato tubers and shown to consist of 4 forms. Three of these forms had higher Q10 values over the range 2-6.degree. than over the range 12-16.degree. and are regarded as being cold-labile. No such cold-lability was detected for the key enzymes involved in sucrose synthesis and the oxidative pentose phosphate pathway. Thus, in potatoes stored at 2-8.degree. the cold-lability of PFK leads to a greater redn. in glycolysis than

in other pathways that consume hexose 6-phosphates. The increased availability of the latter is seen as leading to increased synthesis of sucrose. Addnl., a new breeding clone to potato that did not show cold-lability of PFK did not accumulate significant amts. of sugar in the cold.

AN CA111(9):74862q

TI Effects of low temperature on the respiratory metabolism of carbohydrates by plants

AU Ap Rees, T.; Burrell, M. M.; Entwistle, T. G.; Hammond, J. B. W.; Kirk, D.; Kruger, N. J.

CS Bot. Sch., Univ. Cambridge

LO Cambridge CB2 3EA, UK

SO Symp. Soc. Exp. Biol., 42(Plants Temp.), 377-93

1:[illegible]CLEAR PAGE, PLEASE STN INTERNATIONAL P0017

L2 ANSWER 10 OF 27

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SC 11-2 (Plant Biochemistry)

DT J

CO SSEBA9

IS 0081-1386

PY 1988

LA Eng

L2 ANSWER 11 OF 27

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AB Four forms of phosphofructokinase (PFK) were purified to apparent homogeneity from tubers of potato (Solanum tuberosum cv. Record). Each had a final specific activity of .apprx.200 .mu.mol min-1 mg-1 protein. Similar forms of PFK were found in partially purified exts. from tubers and leaves of other potato cultivars and related wild species. The relative mol. masses of 3 forms of PFK were .apprx.200,000 whereas that of the 4th PFK was)800,000. The 4 forms of PFK contained different proportions of 4 polypeptides which had apparent relative mol. masses of 46,300, 49,500, 50,000, and 53,000. These polypeptides gave different patterns of peptide fragments after chem. and proteolytic cleavage. Western blots and immunopptn. studies using antibodies raised against the individual polypeptides showed that all 4 are assocd. with PFK. Thus, potato tubers contain 4 distinct forms of PFK that differ in their subunit compn.

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L2 ANSWER 11 OF 27

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AN CA110(5):35936b

TI Molecular characterization of four forms of phosphofructokinase purified from potato tuber

AU Kruger, Nicholas J.; Hammond, John B. W.; Burrell, Michael M.

CS Inst. Arable Crops Res., AFRC

LO Harpenden/Herts AL5 2JQ, UK

SO Arch. Biochem. Biophys., 267(2), 690-700

SC 7-2 (Enzymes)

SX 11

DT J

CO ABBIA4

IS 0003-9861

PY 1988

LA Eng

L2 ANSWER 12 OF 27

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AB Inorg. pyrophosphate:fructose-6-phosphate 1-phosphotransferase (PPi-PFK) was purified from potato tubers. The enzyme has the

structure .alpha.4.beta.4 with an .alpha. subunit of 68 kDa and a .beta. subunit of 60 kDa. The structural relationship of this enzyme to other phosphofructokinases (PFK) and to fructose bisphosphatase was examd. by immunopptn. and immunoblotting. Antibodies to the plant enzyme did not react with Escherichia coli PFK. No cross-reaction was seen among the following enzymes or their antibodies: yeast fructose bisphosphatase; rabbit PFKs A, B, or the enzyme from brain; and the 2 subunits of the potato PPi-PFK.
1?:?O?V?S1C?P?Y5?N?0CLEAR PAGE, PLEAS?TN INTERNATIONAL P0019

L2 ANSWER 12 OF 27
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On the other hand, antibody to E. coli PFK-1 strongly cross-reacts with the 60-kDa polypeptide but not with the 68-kDa peptide.
AN CA109(15):124798e
TI Inorganic pyrophosphate:fructose-6-phosphate 1-phosphotransferase of the potato tuber is related to the major ATP-dependent phosphofructokinase of E. coli
AU Yuan, Xiao Hua; Kwiatkowska, Danuta; Kemp, Robert G.
CS Dep. Biol. Chem. Struct., Univ. Health Sci.
LO North Chicago, IL 60065, USA
SO Biochem. Biophys. Res. Commun., 154(1), 113-17
SC 7-2 (Enzymes)
DT J
CO BBRCA9
IS 0006-291X
PY 1988
LA Eng

L2 ANSWER 16 OF 27
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AB Activities of both ATP-dependent (ATP-PFK) and pyrophosphate-dependent phosphofructokinase (PPi-PFK) were detected in potato tubers. PPi-PFK activity was approx. 3.5-fold higher than ATP-PFK, suggesting that PPi-PFK may contribute more than ATP-PFK to glycolysis and thus sugar metab. Temp. reconditioning caused relatively rapid increases in PPi-PFK activity, compared with ones in ATP-PFK and steady decreases in reducing sugars. In contrast, at low temp., there were relatively rapid decreases in PPi-PKF activity
1?:?O?V?3?1C?P?Y5?N?5CLEAR PAGE, PLEAS?TN INTERNATIONAL P0020

L2 ANSWER 16 OF 27
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compared with ones in ATP-PFK and reducing sugars accumulating steadily in the tubers. There was no effect of isopropyl-m-chlorocarbanilate on changes in both ATP-PFK and PPi-PFK activities and changes in reducing sugars throughout this expt. No consistent neg. or pos. relationship between changes of ATP-PFK and PPi-PFK activities and changes of reducing sugars was found in the potato tubers.
AN CA107(25):231355p
TI ATP- and pyrophosphate-dependent phosphofructokinase activity and reducing sugar content in potatoes as influenced by reconditioning and isopropyl-m-chlorocarbanilate
AU Chung, Chung Han
CS Dep. Hortic., Dong-A Univ.
LO S. Korea
SO Han'guk Wonye Hakhoechi, 28(2), 118-25
SC 5-3 (Agrochemical Bioregulators)
DT J
CO HWHCD5
IS 0253-651X
PY 1987
LA Eng

L2 ANSWER 17 OF 27
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AB In callus-forming potato tuber discs growing at low culture temp. (8.degree.) the activities of glucose-6-phosphate dehydrogenase, EC 1.1.1.49 (G6PDH) and 6-phosphogluconate dehydrogenase, EC 1.1.1.44
1?:B0V551C0@Y5@NB0CLEAR PAGE, PLEASSTN INTERNATIONAL P0021

L2 ANSWER 17 OF 27
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(6PGDH) were twice as high as during growth at a high culture temp. (28.degree.). After a transfer from 8.degree. to 28.degree. and vice versa an adaptation of 6PDGDH activity to the new culture temp. took place. Phosphofructokinase, EC 2.7.1.11 (PFK) and alc. dehydrogenase, EC 1.1.1.1 (ADH) activities tended to be lower during growth at a low culture temp. (ratio 6PGDH/PFK 3:1 in 8.degree. callus and 1:1 in 28.degree. callus). C1/C6 ratios were independent of culture temp., suggesting that although the in vitro capacity of the pentose phosphate pathway (PPP) is higher at low culture temps., the relative in vivo PPP activity is not influenced by the culture temp. However, products of the PPP probably will re-enter glycolysis, thereby also releasing C6. Apparently, at a low culture temps. this bypass of part of glycolysis has a special function to avoid the cold-sensitive PFK.
AN CA107(23):214904z
TI Enzymes of the pentose phosphate pathway in callus-forming potato tuber disks grown at various temperatures
AU Wagner, Anneke M.; Kneppers, Tarcies J. A.; Kroon, Bernadette M.; Van der Plas, Linus H. W.
CS Dep. Plant Physiol., Vrije Univ. Amsterdam
LO Amsterdam 1081 HV, Neth.
SO Plant Sci. (Limerick, Irel.), 51(2-3), 159-64
SC 11-2 (Plant Biochemistry)
DT J
CO PLSCE4
IS 0168-9452
PY 1987
LA Eng
1?:B8V201C0@Y5@NB7CLEAR PAGE, PLEASSTN INTERNATIONAL P0022

L2 ANSWER 17 OF 27
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L2 ANSWER 21 OF 27
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

AB Unavailable
AN CA105(19):166880y
TI Effects of temperature and chloropropham on phosphofructokinase, mitochondrial respiration and reducing sugars in dormant Nooksack potato tubers
AU Chung, Chung Han
CS Univ. Missouri
LO Columbia, MO, USA
SO 150 pp. Avail. Univ. Microfilms Int., Order No. DA8607899 From: Diss. Abstr. Int. B 1986, 47(2), 459
SC 5-6 (Agrochemical Bioregulators)
DT D
PY 1985
LA Eng

=> e burrell, m?/au
E1 17 BURRELL, M M/AU
E2 4 BURRELL, M O/AU
E3 0 --> BURRELL, M?/AU
E4 2 BURRELL, MARTIN O/AU

E5 12 BURRELL, MICHAEL C/AU
E6 1 BURRELL, MICHAEL CRAIG/AU
E7 5 BURRELL, MICHAEL M/AU
13:00V201COPY5ANB5CLEAR PAGE, PLEASSTN INTERNATIONAL P0023
E8 2 BURRELL, N J/AU
E9 4 BURRELL, N S/AU
E10 1 BURRELL, P M/AU
E11 4 BURRELL, PATRICIA M/AU
E12 3 BURRELL, R/AU

=) s e1 or e5
17 "BURRELL, M M"/AU
12 "BURRELL, MICHAEL C"/AU
L4 29 "BURRELL, M M"/AU OR "BURRELL, MICHAEL C"/AU

=) d l4 1-29 ti py

L4 ANSWER 1 OF 29
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TI X-ray photoelectron and static secondary-ion mass spectroscopic studies of segmented block copoly(ether-esters)
PY 1991

L4 ANSWER 2 OF 29
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TI The expression of class I patatin gene fusions in transgenic potato varies with both gene and cultivar
PY 1991

L4 ANSWER 3 OF 29
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13:00V001COPY5AND2CLEAR PAGE, PLEASSTN INTERNATIONAL P0024

L4 ANSWER 3 OF 29
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY
TI Surface studies of polyether-polyester copolymers and blends
PY 1990

L4 ANSWER 4 OF 29
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TI Static SIMS study of miscible blends of polystyrene and poly(vinyl methyl ether)
PY 1990

L4 ANSWER 5 OF 29
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Effects of low temperature on the respiratory metabolism of carbohydrates by plants
PY 1988

L4 ANSWER 6 OF 29
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TI Surface analysis of bisphenol A (BPA) polycarbonate/poly(butylene terephthalate) blends by x-ray photoelectron spectroscopy
PY 1988

L4 ANSWER 7 OF 29
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13:00V101COPY5AND2CLEAR PAGE, PLEASSTN INTERNATIONAL P0025

L4 ANSWER 7 OF 29
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TI Characterization of reactive areas in the direct process for the production of methylchlorosilanes
PY 1988

L4 ANSWER 8 OF 29
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TI Study of the enhanced oxidative degradation of polymer films at polymer/copper(oxide) interfaces using depth profile and inert marker techniques
PY 1988

L4 ANSWER 9 OF 29
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TI Characterization of copper/enamel interfacial reactions during aging
PY 1988

L4 ANSWER 10 OF 29
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TI Characterization of palladium dichloride/tin dichloride metalization catalysts on a polyether-polyimide surface by XPS and RBS
PY 1988

L4 ANSWER 11 OF 29
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1[illegible]CLEAR PAGE, PLEASSTN INTERNATIONAL P0026

L4 ANSWER 11 OF 29
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TI Genetic transformation in two potato cultivars with T-DNA from disarmed Agrobacterium
PY 1987

L4 ANSWER 12 OF 29
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TI Genetic manipulation in potato with Agrobacterium rhizogenes
PY 1986

L4 ANSWER 13 OF 29
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TI Changes in translatable poly(A) RNA from differentiated potato tissues transformed with shoot-inducing Ti TL-DNA of Agrobacterium tumefaciens
PY 1986

L4 ANSWER 14 OF 29
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TI Oxides formed on polycrystalline titanium thin-film surfaces: rates of formation and composition of oxides formed at low and high O2 partial pressures
PY 1986
1[illegible]CLEAR PAGE, PLEASSTN INTERNATIONAL P0027

L4 ANSWER 15 OF 29
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TI Expression of shoot-inducing Ti TL-DNA in differentiated tissues of

potato (Solanum tuberosum cv Maris Bard)
PY 1985

L4 ANSWER 16 OF 29
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TI Purine metabolism in barley powdery mildew and its host
PY 1985

L4 ANSWER 17 OF 29
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TI Deuterium uptake in titanium thin films: the effect of oxide, and metal (titanium and iron) overlayers
PY 1985

L4 ANSWER 18 OF 29
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TI Genetic modification of potato development using Ri T-DNA
PY 1985

L4 ANSWER 19 OF 29
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1[illegible]:[illegible]V151C[illegible]Y5[illegible]NB5CLEAR PAGE, PLEAS[illegible]TN INTERNATIONAL P0028

L4 ANSWER 19 OF 29
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY
TI Inhibition of browning, phenoxyacetic acids and phenolic metabolism in potato tuber discs: a model system to study chemicals that control common scab
PY 1984

L4 ANSWER 20 OF 29
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI A sequential method for removing the inelastic loss contribution from Auger electron spectroscopic data
PY 1983

L4 ANSWER 21 OF 29
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY

TI Data acquisition and processing modes for quantitative Auger electron spectroscopy
PY 1982

L4 ANSWER 22 OF 29
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TI The translocation of 3,5-dichlorophenoxyacetic acid in relation to its effect on potato common scab
PY 1982
1[illegible]:[illegible]V301C[illegible]Y5[illegible]NB5CLEAR PAGE, PLEAS[illegible]TN INTERNATIONAL P0029

L4 ANSWER 23 OF 29
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TI Decreased severity of potato common scab after foliar sprays of 3,5-dichlorophenoxyacetic acid, a possible antipathogenic agent
PY 1981

L4 ANSWER 24 OF 29
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TI The mode of action of ethionine foliar sprays against potato common scab (Streptomyces scabies)
PY 1981

L4 ANSWER 25 OF 29
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TI Movement of ethionine in potato plants after foliar application against common scab
PY 1980

L4 ANSWER 26 OF 29
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TI Mechanisms of action of foliar sprays of daminozide and ethionine against potato common scab
PY 1977
1[illegible]:[illegible]91C[illegible]Y5[illegible]D4CLEAR PAGE, PLEASSTN INTERNATIONAL P0030

L4 ANSWER 27 OF 29
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TI Amino acid movement from leaves of Tussilago farfara L. to the rust, Puccinia poarum Neils
PY 1977

L4 ANSWER 28 OF 29
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TI Carbohydrate metabolism of rice leaves infected by Piricularia oryzae
PY 1974

L4 ANSWER 29 OF 29
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TI Metabolism of phenylalanine and tyrosine by rice leaves infected by Piricularia oryzae
PY 1974

=> d 14 2 5 11-13 15 18 ab bib

L4 ANSWER 2 OF 29
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AB Patatin is a family of glycoproteins that contributes about 40% of the total sol. protein in tubers of potato (Solanum tuberosum). The protein is encoded by a multigene family of 50-70 genes which have been divided into classes I and II on the basis of sequence homol.
1[illegible]:[illegible]91C[illegible]Y5[illegible]B2CLEAR PAGE, PLEASSTN INTERNATIONAL P0031

L4 ANSWER 2 OF 29
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The promoters of two class I genes, PS20 and PS3/27, were transcriptionally fused to .beta.-glucuronidase and transformed into the potato cultivars Desiree and Maris Bard. Examn. of the expression levels in large populations of microtubers indicated that the PS20 promoter produced .beta.-glucuronidase activities 5-fold lower in Desiree than Maris Bard whereas the PS3/27 promoter showed similar levels in both cultivars. Furthermore, the relative expression levels from the two promoters were reversed in the two cultivars. The .beta.-glucuronidase enzyme activity was correlated with the mRNA level but not the copy no. of the introduced gene. The implications for the use of patatin promoters in the genetic modification of tubers is discussed.
AN CA114(13):116191q

TI The expression of class I patatin gene fusions in transgenic potato varies with both gene and cultivar
AU Blundy, K. S.; Blundy, M. A. C.; Carter, D.; Wilson, F.; Park, W. D.; Burrell, M. M.
CS Adv. Technol. (Cambridge) Ltd.
LO Cambridge CB4 4WA, UK
SO Plant Mol. Biol., 16(1), 153-60
SC 3-3 (Biochemical Genetics)
SX 11
DT J
CO PMBIDB
IS 0167-4412
PY 1991
LA Eng
1?:?0?591C0?Y5?N?7CLEAR PAGE, PLEAS?TN INTERNATIONAL P0032

L4 ANSWER 5 OF 29

AB The effects of lowering the temp. from 25.degree. to 2-8.degree. on carbohydrate metab. by plant cells are considered. Particular emphasis is placed on the mechanism of cold-induced sweetening in tubers of potato (Solanum tuberosum). Temps. between 0 and 10.degree. caused a marked redn. in the rate of respiration of a wide range of plant tissues. At these temps. the ability of suspension cultures of soybean (Glycine max), and callus cultures and tubers of potato to metabolize [14C]glucose was appreciably diminished. The detailed distribution of 14C showed that lowering the temp. decreased the proportion of the metabolized [14C]glucose that entered the respiratory pathways and increased the proportion converted to sucrose. Pulse and chase expts., in which [14C]glucose was supplied to potato tubers at 2 and 25.degree., showed that lowering the temp. led to accumulation of label in hexose 6-phosphates, which were subsequently converted to sucrose. The patterns of 14CO2 prodn. from specifically labeled [14C]glucose supplied to soybean suspension cultures and disks of potato tuber suggested that lowering the temp. reduced the activity of glycolysis more than that of the oxidative pentose phosphate pathway. Apparently, lowering the temp. not only reduces the rate of carbohydrate metab. but also alters the relative activities of the different pathways involved. A disproportionate redn. in glycolysis at the lower temps. is suggested. Mature tubers of many varieties of potato accumulate sucrose and hexose when stored between 2 and 10.degree.. Starch is the source of C for this synthesis of sugar. Cytosolic fructose-1,6-bisphosphtase could not be detected in potato tubers. Apparently, C for sugar synthesis in the cold leaves the
1?:?8?191C0?Y5?N?8CLEAR PAGE, PLEAS?TN INTERNATIONAL P0033

L4 ANSWER 5 OF 29

Or above

amyloplast, not as triose phosphate, but probably as a 6-C compd. Evidence is presented that phosphofructokinase (PFK) plays a major role in regulating the entry of hexose 6-phosphates into glycolysis in potato tubers. PFK was purified from potato tubers and shown to consist of 4 forms. Three of these forms had higher Q10 values over the range 2-6.degree. than over the range 12-16.degree. and are regarded as being cold-labile. No such cold-lability was detected for the key enzymes involved in sucrose synthesis and the oxidative pentose phosphate pathway. Thus, in potatoes stored at 2-8.degree. the cold-lability of PFK leads to a greater redn. in glycolysis than in other pathways that consume hexose 6-phosphates. The increased availability of the latter is seen as leading to increased synthesis of sucrose. Addnl., a new breeding clone to potato that did not show cold-lability of PFK did not accumulate signific?nt amts. of sugar in the cold.
AN CA111(9):74862q

TI Effects of low temperature on the respiratory metabolism of carbohydrates by plants
AU Ap Rees, T.; Burrell, M. [redacted]; Entwistle, T. G.; Hammo[redacted], J. B. W.; Kirk, D.; Kruger, N. J.
CS Bot. Sch., Univ. Cambridge
LO Cambridge CB2 3EA, UK
SO Symp. Soc. Exp. Biol., 42(Plants Temp.), 377-93
SC 11-2 (Plant Biochemistry)
DT J
CO SSEBA9
IS 0081-1386
PY 1988
1[illegible]:[illegible]481C[illegible]Y5[illegible]D5CLEAR PAGE, PLEASSTN INTERNATIONAL P0034

L4 ANSWER 5 OF 29
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L4 ANSWER 11 OF 29
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AB Derivs. of potato (Solanum tuberosum 'Maris Bard' and 'Desiree') transformed with disarmed T-DNA from genetically engineered A. tumefaciens strains were isolated. The transformed plants were recovered from shoot-forming tumors induced by infection of wounds with mixed cultures of shoot-inducing A. tumefaciens strains T37 and either Agrobacterium strain LBA1834(pRAL1834) or LBA4404(pBIN6; pRAL4404). Two small-scale feasibility expts. gave at least four Maris Bard plants transformed with pRAL1834 T-DNA and two Desiree plants with pBIN6 T-DNA. The transformed Maris Bard plants were morphol. abnormal and highly aneuploid. This was probably an unfortunate side-effect of a tissue culture-step introduced to promote the efficiency of shoot regeneration. The transformed Desiree plants, in contrast, were isolated without promoting addnl. shoot-growth. They were morphol. normal, contained 47 and the euploid 48 chromosomes per cell, resp., and had improved growth on media contg. kanamycin.
AN CA107(1):1809k
TI Genetic transformation in two potato cultivars with T-DNA from disarmed Agrobacterium
AU Ooms, G.; Burrell, M. M.; Karp, A.; Bevan, M.; Hille, J.
CS Dep. Biochem., Rothamsted Exp. Stn.
LO Harpenden/Herts. AL5 2JQ, UK
SO Theor. Appl. Genet., 73(5), 744-50
1[illegible]:[illegible]181C[illegible]Y5[illegible]04CLEAR PAGE, PLEASSTN INTERNATIONAL P0035

L4 ANSWER 11 OF 29
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SC 3-3 (Biochemical Genetics)
SX 11
DT J
CO THAGA6
IS 0040-5752
PY 1987
LA Eng

L4 ANSWER 12 OF 29
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AB Infection with A. rhizogenes of wounded stems of potato cultivars grown in vitro caused localized prolific root formation (hairy-roots). The cells of these roots contained newly introduced DNA, not detected in normal potato, that was derived from A. rhizogenes. Single transformed roots from the cultivars Majestic, Record, and Maris Bard were regenerated into whole plants. Expression of the introduced genes caused stable alterations in

plant development and tuber shape, which were retained under field conditions. Probably any com. potato cultivar, cultured under appropriate conditions, is amenable to A. rhizogenes-mediated genetic manipulation. The A. rhizogenes-derived genes are convenient model genes for studying questions on structure and expression of transferred genes. A. rhizogenes-Derived genes are of potential use to study the influence of specific genetic factors on complex biol. processes such as potato development and tuberization.
13:[illegible]1CAPY00ND1CLEAR PAGE, PLEASSTN INTERNATIONAL P0036

L4 ANSWER 12 OF 29
COPYRIGHT (C) 1991 AMERICAN CHEMICAL SOCIETY
AN CA105(23):204124q
TI Genetic manipulation in potato with Agrobacterium rhizogenes
AU OOms, G.; Bossen, M. E.; Burrell, M. M.; Karp, A.
CS Rothamsted Exp. Stat.
LO Harpenden/Herts. AL5 2JQ, UK
SO Potato Res., 29(3), 367-79
SC 3-3 (Biochemical Genetics)
SX 11
DT J
CO PORHBW
IS 0014-3065
PY 1986
LA Eng

L4 ANSWER 13 OF 29
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AB Two-dimensional gel electrophoresis was used to examine differences in steady state total poly(A) RNA from untransformed potato (Solanum tuberosum cv. Maris Bard) and potato transformed with shoot-inducing TL-DNA from A. tumefaciens. RNA was compared from phenotypically very distinct in vitro cultured shoots, more similar grafted plants and tubers. In each case, between 200-400 translation products were identified representing the more abundant poly(A) mRNA's. In general, poly(A) RNA from the transformed tissues gave more high-mol.-wt. products. This increase was most evident in poly(A) RNA from shoot cultures. Depending on the tissue examd., 1-5% of the translation products with a mol. wt. (43 kilodaltons were obsd.
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L4 ANSWER 13 OF 29
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to increase or decrease in abundance. The influence of T-DNA on cellular gene expression in the different transformed potato tissues is discussed in relation to previously detd. changes in T-DNA gene expression (particularly of the T-DNA cytokinin gene) and the corresponding changes in endogenous hormone concns. Thus, some of the specific changes in low-mol.-wt. products are either directly caused by the increased cytokinin levels or are indirectly involved in maintaining the transformed phenotype.
AN CA105(1):1534a
TI Changes in translatable poly(A) RNA from differentiated potato tissues transformed with shoot-inducing Ti TL-DNA of Agrobacterium tumefaciens
AU Burrell, M. M.; Temple, S.; Ooms, G.
CS Rothamsted Exp. Stn., Dep. Biochem.
LO Harpenden/Herts., UK
SO Plant Mol. Biol., 6(4), 213-20
SC 3-3 (Biochemical Genetics)
SX 11
DT J
CO PMBIDB
IS 0167-4412
PY 1986

LA Eng

L4 ANSWER 15 OF 29
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AB In potato line Mb1501B, 1 or possibly 2 normally sized Ti TL-DNA
13:00v391C02Y0@N01CLEAR PAGE, PLEASETN INTERNATIONAL P0038

L4 ANSWER 15 OF 29
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copies per tetraploid genome were detected by Southern blot anal., but no TR-DNA was found. The TL-DNA probably contained the entire transposon Tn1831 inserted at the T-DNA auxin gene for transcript 2. Northern blot anal. of the steady-state RNA in different Mb1501B tissues isolated from shoots cultured in vitro, grafted plants, and tubers showed that TL-DNA transcripts 3, 4, 6a, and 7 were expressed most abundantly in the cultured shoots. The transcripts formed .apprx.0.0023-0.0007% of the total poly(A) RNA. Transcripts 1, 5, and 6b were not detected in any of the tissues analyzed. Thus, even lower levels of expression were indicated ((.apprx.0.0001% of the total poly(A) RNA, or (1 mol. T-DNA derived RNA/cell). As expected, transcript 2 was not detected in any of the Mb1501B tissues. The abundance of the transcripts was reduced in grafted plants and tubers, as compared with cultured shoots, with the greatest decrease (5.times.) for transcripts 4, 6a, and 7. Transcript 4, the one most responsible for the changed growth and development of Mb1501B, formed .apprx.0.0003% of the poly(A) RNA from both grafted plants and tubers.
AN CA104(7):46417k
TI Expression of shoot-inducing Ti TL-DNA in differentiated tissues of potato (Solanum tuberosum cv Maris Bard)
AU Burrell, M. M.; Twell, D.; Karp, A.; Ooms, G.
CS Biochem. Dep., Rothamsted Exp. Stn.
LO Herts. AL5 2JQ, UK
SO Plant Mol. Biol., 5(4), 213-22
SC 3-1 (Biochemical Genetics)
SX 11
DT J
13:00v091C02Y0@NB9CLEAR PAGE, PLEASETN INTERNATIONAL P0039

L4 ANSWER 15 OF 29
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CO PMBIDB
IS 0167-4412
PY 1985
LA Eng

L4 ANSWER 18 OF 29
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AB Forty-two potato plants were regenerated from a hairy-root line obtained after infection of a shoot of Solanum tuberosum cv Desiree with Agrobacterium rhizogenes strain LBA 9402 (pRi1855). Transformed plants were uniform and had a distinct phenotype and development compared with untransformed controls. Their growth was vigorous, esp. early in their development, their roots were abundant and showed reduced geotropism, their leaves were slightly crinkled and glossy and they produced longer tubers with more frequent, prominent eyes. Cytol. examn. showed that 10 of the 42 transformed plants had either 47 or 49 chromosomes instead of the normal 48. In 2 of these aneuploids structural changes were obsd.
AN CA103(15):120193g
TI Genetic modification of potato development using Ri T-DNA
AU Ooms, G.; Karp, A.; Burrell, M. M.; Twell, D.; Roberts, J.
CS Dep. Biochem., Rothamsted Exp. Stn.
LO Harpenden/Herts. AL5 2JQ, UK

SO Theor. Appl. Genet., 70(4), 440-6
SC 11-4 (Plant Biochemistry)
DT J
CO THAGA6
13:00v291C0eY0@N63CLEAR PAGE, PLEAS6TN INTERNATIONAL P0040

L4 ANSWER 18 OF 29
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IS 0040-5752
PY 1985
LA Eng

=> e blundy, K?/au
E1 4 BLUNDY, JONATHAN D/AU
E2 3 BLUNDY, K S/AU
E3 0 --> BLUNDY, K?/AU
E4 3 BLUNDY, KEITH S/AU
E5 1 BLUNDY, M A C/AU
E6 2 BLUNDY, PETER D/AU
E7 3 BLUNDY, R F/AU
E8 1 BLUNDY, R G/AU
E9 28 BLUNIER, S/AU
E10 1 BLUNIER, STEFAN/AU
E11 1 BLUNK, DAN PHILIP/AU
E12 5 BLUNK, G/AU

=> s e2 or e4
  3 "BLUNDY, K S"/AU
  3 "BLUNDY, KEITH S"/AU
L5 6 "BLUNDY, K S"/AU OR "BLUNDY, KEITH S"/AU

=> s l5 not l4
L6 5 L5 NOT L4

=> d l6 1-5 ti py
13:00v481C0eY0@N04CLEAR PAGE, PLEAS6TN INTERNATIONAL P0041

L6 ANSWER 1 OF 5
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TI Ribosomal DNA methylation in a flax genotroph and a crown gall tumor
PY 1987

L6 ANSWER 2 OF 5
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TI Characterization of the T-region of the SAP-type Ti-plasmid
    pTiAT181: identification of a gene involved in SAP synthesis
PY 1986

L6 ANSWER 3 OF 5
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TI The use of pNJ5000 as an intermediate vector for the genetic
    manipulation of Agrobacterium Ti-plasmids
PY 1985

L6 ANSWER 4 OF 5
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TI The fate of T-DNA in flax
PY 1983

L6 ANSWER 5 OF 5
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L6 ANSWER 5 OF 5
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TI Nopaline Ti-plasmid, pTiT37, T-DNA insertions into a flax genome
PY 1983

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COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	90.16	90.52

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-5.44	-5.44

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RECORDS LAST ADDED: 12 November 91 (911112/ED) BA9211 BR4110
CAS REGISTRY NUMBERS (R) LAST ADDED: 13 November 91 (911113/UP)

Changes to SUPERTERM/BC searching -- See HELP STERMS

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'L1' IS NOT A VALID FIELD CODE
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12:[illegible]CLEAR PAGE, PLEASE]TN INTERNATIONAL P0043
'AB' IS NOT A VALID FIELD CODE
0 PHOSPHOFRUCTOKINASE/AB
2655 PHOSPHOFRUCTOKINASE/BI
0 POTATO/AB
23434 POTATO/BI
0 SOLANUM/AB
8727 SOLANUM/BI
L7 27 L1 AND (POTATO OR SOLANUM)/AB,BI

=) d 17 1-27 ti

L7 ANSWER 1 OF 27

TI CONTRASTING ROLES FOR PYROPHOSPHATE FRUCTOSE-6-PHOSPHATE PHOSPHOTRANSFERASE DURING AGING OF TISSUE SLICES FROM ***POTATO*** TUBERS AND CARROT STORAGE TISSUES.

L7 ANSWER 2 OF 27

TI CLONING SEQUENCING AND EXPRESSION OF PYROPHOSPHATE-DEPENDENT ***PHOSPHOFRUCTOKINASE*** FROM PROPIONIBACTERIUM-FREUDENREICHII.

L7 ANSWER 3 OF 27

TI ***PHOSPHOFRUCTOKINASE*** IN RELATION TO SUGAR ACCUMULATION IN COLD-STORED ***POTATO*** TUBERS.

L7 ANSWER 4 OF 27

13:[illegible]CLEAR PAGE, PLEASE]TN INTERNATIONAL P0044

L7 ANSWER 4 OF 27

TI NUCLEOTIDE SEQUENCE OF THE RHODOBACTER-CAPSULATUS FRUK GENE WHICH

ENCODES FRUCTOSE-1-PHOSPHATE KINASE EVIDENCE FOR A KINASE SUPERFAMILY INCLUDING BOTH PHOSPHOFRUCTOKINASES OF ESCHERICHIA-COLI.

L7 ANSWER 5 OF 27

TI PYROPHOSPHATE-DEPENDENT ***PHOSPHOFRUCTOKINASE*** CONSERVATION OF PROTEIN SEQUENCE BETWEEN THE ALPHA-SUBUNITS AND BETA-SUBUNITS AND WITH THE ATP-DEPENDENT ***PHOSPHOFRUCTOKINASE*** .

L7 ANSWER 6 OF 27

TI ACTIVATION OF MAMMALIAN PHOSPHOFRUCTOKINASES BY RIBOSE 1 5-BISPHOSPHATE.

L7 ANSWER 7 OF 27

TI EFFECT OF SINK ISOLATION ON SUGAR UPTAKE AND STARCH SYNTHESIS BY ***POTATO*** TUBER STORAGE PARENCHYMA.

L7 ANSWER 8 OF 27

TI RESPIRATORY ENZYME ACTIVITY IN LOW TEMPERATURE SWEETENING OF SUSCEPTIBLE AND RESISTANT POTATOES.

L7 ANSWER 9 OF 27

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L7 ANSWER 9 OF 27

TI MOLECULAR KINETIC AND IMMUNOLOGICAL PROPERTIES OF THE 6 ***PHOSPHOFRUCTOKINASE*** FROM THE GREEN ALGA SELENASTRUM-MINUTUM ACTIVATION DURING BIOSYNTHETIC CARBON FLOW.

L7 ANSWER 10 OF 27

TI PYROPHOSPHATE DEPENDENT ***PHOSPHOFRUCTOKINASE*** CONSERVATION OF PROTEIN SEQUENCE BETWEEN THE ALPHA AND BETA SUBUNITS AND WITH ATP DEPENDENT ***PHOSPHOFRUCTOKINASE*** .

L7 ANSWER 11 OF 27

TI EFFECT OF LOW TEMPERATURE ON THE ACTIVITY OF ***PHOSPHOFRUCTOKINASE*** FROM ***POTATO*** TUBERS.

L7 ANSWER 12 OF 27

TI EFFECTS OF LOW TEMPERATURE ON THE RESPIRATORY METABOLISM OF CARBOHYDRATES BY PLANTS.

L7 ANSWER 13 OF 27

TI CHARACTERIZATION OF SUCROLYSIS VIA THE UDP AND PYROPHOSPHATE-DEPENDENT SUCROSE SYNTHASE PATHWAY.

L7 ANSWER 14 OF 27

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L7 ANSWER 14 OF 27

TI MOLECULAR CHARACTERIZATION OF FOUR FORMS OF ***PHOSPHOFRUCTOKINASE*** PURIFIED FROM ***POTATO*** TUBER.

L7 ANSWER 15 OF 27

TI INORGANIC PYROPHOSPHATE FRUCTOSE-6-PHOSPHATE 1-PHOSPHOTRANSFERASE OF THE ***POTATO*** TUBER IS RELATED TO THE MAJOR ATP-DEPENDENT ***PHOSPHOFRUCTOKINASE*** OF ESCHERICHIA-COLI.

L7 ANSWER 16 OF 27

TI EFFECT OF LOW TEMPERATURE ON ***PHOSPHOFRUCTOKINASE*** ACTIVITY FROM ***POTATO*** TUBER.

L7 ANSWER 17 OF 27

TI ELECTROPHORETIC DETERMINATION OF FRUCTOSE 6-PHOSPHATE 2-KINASE.

L7 ANSWER 18 OF 27

TI IMMUNOLOGICAL CHARACTERIZATION OF THE PYROPHOSPHATE DEPENDENT FRUCTOSE-6-PHOSPHATE PHOSPHOTRANSFERASE.

L7 ANSWER 19 OF 27

TI ENZYMES OF THE PENTOSE PHOSPHATE PATHWAY IN CALLUS-FORMING ***POTATO*** TUBER DISCS GROWN AT VARIOUS TEMPERATURES.

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L7 ANSWER 20 OF 27

TI CHARACTERIZATION OF MULTIPLE FORMS OF ***POTATO*** TUBER ***PHOSPHOFRUCTOKINASE*** .

L7 ANSWER 21 OF 27

TI THE CONTENT OF ATP ADP AMP INORGANIC PHOSPHATE THE ACTIVITY OF ENZYMES INVOLVED IN THE GLYCOLYTIC PATHWAY AND SOME PROBLEMS OF ITS REGULATION AND ENERGY BALANCE IN TOBACCO PLANTS INFECTED WITH ***POTATO*** VIRUS Y.

L7 ANSWER 22 OF 27

TI SUGAR METABOLISM IN DEVELOPING TUBERS OF ***SOLANUM*** -TUBEROSUM .

L7 ANSWER 23 OF 27

TI CHARACTERIZATION OF PYROPHOSPHATE FRUCTOSE-6-PHOSPHATE PHOSPHOTRANSFERASE FROM ***POTATO*** ***SOLANUM*** -TUBEROSUM CULTIVAR RECORD TUBERS.

L7 ANSWER 24 OF 27

TI PROPERTIES OF PURIFIED ***PHOSPHOFRUCTOKINASE*** FROM ***POTATO*** ***SOLANUM*** -TUBEROSUM CULTIVAR RECORD.

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L7 ANSWER 25 OF 27

TI COLD LABILITY OF PHOSPHO FRUCTO KINASE EC-2.7.1.11 FROM ***POTATO*** ***SOLANUM*** -TUBEROSUM CULTIVAR RECORD TUBERS.

L7 ANSWER 26 OF 27

TI IDENTIFICATION OF THE REGULATORY STEPS IN GLYCOLYSIS IN ***POTATO*** ***SOLANUM*** -TUBEROSUM CULTIVAR RECORD TUBERS.

L7 ANSWER 27 OF 27

TI CARBOHYDRATE METABOLISM IN BROOM RAPE AN ANGIOSPERMIC TOTAL PARASITE.

=> d 17 2 4 7 20 24 ab bib

L7 ANSWER 2 OF 27

13:00V201C02Y0@NB4CLEAR PAGE, PLEASSTN INTERNATIONAL P0049

L7 ANSWER 2 OF 27

AB Pyrophosphate-dependent 6-phosphofructo-1-kinase (PPi-PFK) from Propionibacterium freudenreichii is a non-allosteric enzyme with properties dissimilar to those of other described phosphofructokinases. The enzyme was cloned into pBluescript, sequenced, and expressed in Escherichia coli at levels 15 times higher than those observed in Propionibacterium. The gene consists of 1215 bases which code for a protein of 404 amino acids and a mass of 43,243 daltons. High G+C in the codon usage (66%) of the gene is consistent with the classification of Propionibacterium in the High-G+C subdivision of the Gram-positive bacteria. While showing no sequence identity to the non-allosteric ATP-dependent ***phosphofructokinase*** of E. coli, alignments of the amino acid sequence with other PFKs reveal degrees of identities among the amino halves of the proteins, from 26% between the Propionibacterium and ***potato*** PPi-PFKs, and 29% between Propionibacterium and E. coli ATP-PFKs. These levels of identities indicate that the amino halves of these proteins are homologous. Identities between the carboxyl half of Propionibacterium PFK and carboxyl halves of other sequences are below 20%, suggesting that the carboxyl half is not homologous. Despite the poor conservation, most of the residues that take part in the binding of fructose-6-P or Mg-PPi could be readily identified by analogy to the structure of the E. coli PFK. Both the fructose-6-P and ATP-binding sites are conserved, indicating that PPi binds to the homologous site of the E. coli ATP-binding site.
13:00V291C02Y0@NB2CLEAR PAGE, PLEASSTN INTERNATIONAL P0050

L7 ANSWER 2 OF 27

AN 91:482753 BIOSIS
DN BA92:116513
TI CLONING SEQUENCING AND EXPRESSION OF PYROPHOSPHATE-DEPENDENT ***PHOSPHOFRUCTOKINASE*** FROM PROPIONIBACTERIUM-FREUDENREICHII.
AU LADROR U S; GOLLAPUDI L; TRIPATHI R L; LATSHAW S P; KEMP R G
CS DEP. BIOL. CHEM., CHICAGO MED. SCH., 3333 GREEN BAY RD., NORTH CHICAGO, ILL. 60064.
SO J BIOL CHEM 266 (25). 1991. 16550-16555. CODEN: JBCHA3 ISSN: 0021-9258
LA English

L7 ANSWER 4 OF 27

AB The fruK gene encoding fructose-1-phosphate kinase (FruK), located within the fructose (fru)-catabolic operon of Rhodobacter capsulatus, was sequenced. FruK of R. capsulatus (316 amino acids; molecular weight = 31,232) is the same size as and is homologous to FruK of Escherichia coli, ***phosphofructokinase*** B (PfkB) of E. coli, phosphotagatokinase of Staphylococcus aureus, and ribokinase of E. coli. These proteins therefore make up a family of homologous proteins, termed the PfkB family. A phylogenetic tree for this new family was constructed. Sequence comparisons plus chemical inactivation studies suggested the lack of involvement of specific residues in catalysis. Although the Rhodobacter FruK differed markedly from the other enzymes within the PfkB family with respect to amino acid composition, these enzymes exhibited similar predicted secondary structural features. A large internal segment of the Rhodobacter FruK was found to be similar in sequence to the domain
13:00V581C02Y0@NB9CLEAR PAGE, PLEASSTN INTERNATIONAL P0051

L7 ANSWER 4 OF 27

bearing the sugar bisphosphate-binding region of the large subunit of ribulose 1,5-bisphosphate carboxylase/oxygenase of plants and bacteria. Proteins of the PfkB family did not exhibit statistically significant sequence identity with PfkA of E. coli. PfkA, however, is homologous to other prokaryotic and eukaryotic ATP- and PPi-dependent Pfks (the PfkA family). These eukaryotic, ATP-dependent enzymes each consist of a homotetramer (mammalian) or a heterooctamer (yeasts), with each subunit containing an internal duplication of the size of the entire PfkA protein of E. coli. In some of these enzymes, additional domains are present. A phylogenetic tree was constructed for the PfkA family and revealed that the bacterial enzymes closely resemble the N-terminal domains of the eukaryotic enzyme subunits whereas the C-terminal domains have diverged more extensively. The PPi-dependent Pfk of ***potato*** is only distantly related to the ATP-dependent enzymes. On the basis of their similar functions, sizes, predicted secondary structures, and sequences, we suggest that the PfkA and PfkB families share a common evolutionary origin.

AN 91:317772 BIOSIS

DN BA92:28287

TI NUCLEOTIDE SEQUENCE OF THE RHODOBACTER-CAPSULATUS FRUK GENE WHICH ENCODES FRUCTOSE-1-PHOSPHATE KINASE EVIDENCE FOR A KINASE SUPERFAMILY INCLUDING BOTH PHOSPHOFRUCTOKINASES OF ESCHERICHIA-COLI.

AU WU L-F; REIZER A; REIZER J; CAI B; TOMICH J M; SAIER M H JR

CS DEP. BIOL., UNIV. CALIF. AT SAN DIEGO, LA JOLLA, CALIF. 92093-0116.

SO J BACTERIOL 173 (10). 1991. 3117-3127. CODEN: JOBAAY ISSN: 0021-9193

LA English

13:00191C02Y0MN08CLEAR PAGE, PLEASETN INTERNATIONAL P0052

L7 ANSWER 7 OF 27

AB Import into ***potato*** (***Solanum*** tuberosum L. cv. Record) tubers was terminated by removing the sink at its connection with the stolon. The ability of discs of storage tissue from the excised tubers to take up exogenous sugars and convert them to starch was compared with that of discs from untreated tubers from the same plant population. In rapidly-growing control tubers, glucose and fructose were taken up to a greater extent than sucrose, 77% of the glucose being converted to starch within 3 h (compared with 64% and 27% for fructose and sucrose, respectively). These values fell as the tubers aged but the ranking (glucose > fructose > sucrose) was maintained, emphasizing a severe rate-limiting step following the import of sucrose into the growing tuber. Sink isolation had little effect on the ability of the storage cells to take up exogenous sucrose across the plasmalemma for up to 7 d after sink isolation. However, the ability of the same cells to convert the sucrose to starch was severely inhibited within 24 h, as was the sensitivity of starch synthesis to turgor. In the case of glucose, skin isolation inhibited both the uptake and the conversion to starch, the latter being inhibited to a greater degree. A detailed metabolic study of tubers 7 d after excision showed that, with sucrose as substrate, 94% of the radioactivity in the soluble sugar pool was recovered in sucrose following sink isolation (92% in control tubers). However, with glucose as substrate, 80% of the radioactivity was recovered as sucrose following tuber excision (28% in control tubers), providing evidence that sucrose synthesis acts as a major alternative carbon sink when starch synthesis is inhibited. In the same tubers, sucrose-synthase activity decreased by 70% following sink isolation, compared with a 45% reduction in ADP-glucose pyrophosphorylase.

13:00481C02Y0BNB0CLEAR PAGE, PLEASETN INTERNATIONAL P0053

L7 ANSWER 7 OF 27

Activities of UDP-glucose pyrophosphorylase, starch phosphorylase,

starch synthase and both PPi- and ATP-dependent phosphofructokinases remained unchanged. Acid-invertase activity increased fivefold.
AN 90:476177 BIOSIS
DN BA90:115597
TI EFFECT OF SINK ISOLATION ON SUGAR UPTAKE AND STARCH SYNTHESIS BY ***POTATO*** TUBER STORAGE PARENCHYMA.
AU OPARKA K J; DAVIES H V; WRIGHT K M; VIOLA R; PRIOR D A M
CS DEP. CELLULAR AND ENVIRONMENTAL PHYSIOL., SCOTTISH CROP RES. INST., INVERGOWRIE, DUNDEE DD2 5DA, UK.
SO PLANTA (HEIDELB) 182 (1). 1990. 113-117. CODEN: PLANAB ISSN: 0032-0935
LA English

L7 ANSWER 20 OF 27

13:08:20:01 CONNECT HELP PLEASE STN INTERNATIONAL P0054

L7 ANSWER 20 OF 27

AN 87:478940 BIOSIS
DN BR33:117081
TI CHARACTERIZATION OF MULTIPLE FORMS OF ***POTATO*** TUBER ***PHOSPHOFRUCTOKINASE*** .
AU BURRELL M M; HAMMOND J B W; KRUGER N J
CS BIOCHEM. DEP., ROTHAMSTED EXPERIMENTAL STN., HARPENDEN, HERTS. AL5 2JQ, UK.
SO XIVTH INTERNATIONAL BOTANICAL CONGRESS, BERLIN, WEST GERMANY, JULY 24-AUGUST 1, 1987. INT BOT CONGR ABSTR 17 (0). 1987. 56. CODEN: AIBCE5
DT Conference
LA English

L7 ANSWER 24 OF 27

AN 86:353159 BIOSIS
DN BR31:58087
TI PROPERTIES OF PURIFIED ***PHOSPHOFRUCTOKINASE*** FROM ***POTATO*** ***SOLANUM*** -TUBEROSUM CULTIVAR RECORD.
AU KRUGER N J; HAMMOND J B W; BURRELL M M
CS DEPT. OF BIOCHEMISTRY, ROTHAMSTED EXPERIMENTAL STATION, HARPENDEN, HERTS. AL5 2JQ, UK.
SO ANNUAL MEETING OF THE AMERICAN SOCIETY OF PLANT PHYSIOLOGISTS, BATON ROUGE, LA., USA, JUNE 8-12, 1986. PLANT PHYSIOL (BETHESDA) 80 (4 SUPPL.). 1986. 41. CODEN: PLPHAY ISSN: 0032-0889
DT Conference
LA English
13:08:30:01 CONNECT HELP PLEASE STN INTERNATIONAL P0055

=> s burrell, m?/au
L8 95 BURRELL, M?/AU

=> s l8 and (potato or solanum)
23434 POTATO
8727 SOLANUM
L9 25 L8 AND (POTATO OR SOLANUM)

=> d l9 not l7
L10 18 L9 NOT L7

=> d l10 1-18 ti

L10 ANSWER 1 OF 18

TI THE EXPRESSION OF CLASS I PATATIN GENE FUSIONS IN TRANSGENIC ***POTATO*** VARIES WITH BOTH GENE AND CULTIVAR.

L10 ANSWER 2 OF 18

TI STRATEGIES FOR ***POTATO*** TRANSFORMATION AND REGENERATION.

L10 ANSWER 3 OF 18

TI COMPARISON OF PATATIN INDUCED GUS EXPRESSION IN DIFFERENT CULTIVARS OF ***SOLANUM*** -TUBEROSUM .

L10 ANSWER 4 OF 18

13:08:55:51 ON 10 NOV 90 CLEAR PAGE, PLEASE STN INTERNATIONAL P0056

L10 ANSWER 4 OF 18

TI GENETIC MANIPULATION IN ***POTATO*** .

L10 ANSWER 5 OF 18

TI GENETIC TRANSFORMATION IN TWO ***POTATO*** CULTIVARS WITH T-DNA FROM DISARMED AGROBACTERIUM.

L10 ANSWER 6 OF 18

TI DEVELOPMENTAL REGULATION OF RI T-L DNA GENE EXPRESSION IN ROOTS SHOOTS AND TUBERS OF TRANSFORMED ***POTATO*** ***SOLANUM*** -TUBEROSUM CULTIVAR DESIREE.

L10 ANSWER 7 OF 18

TI CHANGES IN TRANSLATABLE POLY ADENYLATE RNA FROM DIFFERENTIATED ***POTATO*** ***SOLANUM*** -TUBEROSUM CULTIVAR MARIS-BARD TISSUES TRANSFORMED WITH SHOOT-INDUCING TI T-L-DNA OF AGROBACTERIUM-TUMEFACIENS.

L10 ANSWER 8 OF 18

TI GENETIC MANIPULATION IN CULTIVARS OF OILSEED RAPE BRASSICA-NAPUS USING AGROBACTERIUM.

L10 ANSWER 9 OF 18

13:10:10:10 ON 10 NOV 90 CLEAR PAGE, PLEASE STN INTERNATIONAL P0057

L10 ANSWER 9 OF 18

TI EXPRESSION OF SHOOT-INDUCING TI T-L DNA IN DIFFERENTIATED TISSUES OF ***POTATO*** ***SOLANUM*** -TUBEROSUM MARIS-BARD.

L10 ANSWER 10 OF 18

TI THE USE OF T DNA GENES TO MODIFY ***POTATO*** DEVELOPMENT.

L10 ANSWER 11 OF 18

TI GENETIC MODIFICATION OF ***POTATO*** DEVELOPMENT USING RI TI PLASMID DNA.

L10 ANSWER 12 OF 18

TI INHIBITION OF BROWNING PHENOXYACETIC ACIDS AND PHENOLIC METABOLISM IN ***POTATO*** TUBER DISCS A MODEL SYSTEM TO STUDY CHEMICALS THAT CONTROL COMMON SCAB.

L10 ANSWER 13 OF 18

TI THE TRANSLOCATION OF 3 5 DI CHLOROPHENOXY ACETIC-ACID IN RELATION TO ITS EFFECT ON ***POTATO*** COMMON SCAB.

L10 ANSWER 14 OF 18

13:N0V301C0EY10NB2CLEAR PAGE, PLEASETN INTERNATIONAL P0058

L10 ANSWER 14 OF 18

TI DECREASED SEVERITY OF ***POTATO*** COMMON SCAB AFTER FOLIAR SPRAYS OF 3 5 DI CHLOROPHENOXY ACETIC-ACID A POSSIBLE ANTI PATHOGENIC AGENT.

L10 ANSWER 15 OF 18

TI PREPARATION OF GREEN PLANT MATERIAL FOR LIQUID SCINTILLATION COUNTING.

L10 ANSWER 16 OF 18

TI THE MODE OF ACTION OF ETHIONINE FOLIAR SPRAYS AGAINST ***POTATO*** COMMON SCAB STREPTOMYCES-SCABIES.

L10 ANSWER 17 OF 18

TI MOVEMENT OF ETHIONINE IN ***POTATO*** PLANTS AFTER FOLIAR APPLICATION AGAINST COMMON SCAB.

L10 ANSWER 18 OF 18

TI POLY URETHANE COATING A NEW TECHNIQUE FOR THE PRESERVATION OF DISEASED PLANT MATERIAL GRASS-M APPLE-D ***POTATO*** -D PEA-D.

=> d l10 ab bib 1-4
13:N0V291C0EY10NB5CLEAR PAGE, PLEASETN INTERNATIONAL P0059

L10 ANSWER 1 OF 18

AB Patatin is a family of glycoproteins that contributes about 40% of the total soluble protein in tubers of ***potato*** (***Solanum*** tuberosum L.). The protein is encoded by a multigene family of 50-70 genes which have been divided into classes I and II on the basis of sequence homology. The promoters of two class I genes, PS20 and PS3/27, were transcriptionally fused to .beta.-glucuronidase and transformed into the ***potato*** cultivars Desiree and Maris Bard. Examination of the expression levels in large populations of microtubers indicated that the PS20 promoter produced .beta.-glucuronidase activities 5-fold lower in Desiree than Maris Bard whereas the PS3/27 promoter showed similar levels in both cultivars. Furthermore, the relative expression levels from the two promoters were reversed in the two cultivars. The .beta.-glucuronidase enzyme activity was correlated with the mRNA level but not the copy number of the introduced gene. The implications for the use of patatin promoters in the genetic modification of tubers is discussed.

AN 91:159177 BIOSIS

DN BA91:84977

TI THE EXPRESSION OF CLASS I PATATIN GENE FUSIONS IN TRANSGENIC ***POTATO*** VARIES WITH BOTH GENE AND CULTIVAR.

AU BLUNDY K S; BLUNDY M A C; CARTER D; WILSON F; PARK W D; ***BURRELL M M***

CS ADVANCED TECHNOL., LTD., CAMBRIDGE SCIENCE PARK, CAMBRIDGE CB4 4WA, ENGL., UK.

SO PLANT MOL BIOL 16 (1). 199[redacted] 153-160. CODEN: PMBIDB [redacted]N: 0167-4412

LA English

13:N0V251C0EY10ND0CLEAR PAGE, PLEASETN INTERNATIONAL P0060

L10 ANSWER 2 OF 18

AN 91:148020 BIOSIS
DN BR40:67625
TI STRATEGIES FOR ***POTATO*** TRANSFORMATION AND REGENERATION.
AU MITTEN D H; HORN M; ***BURRELL M M*** ; BLUNDY K S
CS CALGENE INC., 1930 5TH ST., DAVIS, CALIF. 95616, USA.
SO VAYDA, M. E. AND W. D. PARK (ED.). BIOTECHNOLOGY IN AGRICULTURE, NO. 3. THE MOLECULAR AND CELLULAR BIOLOGY OF THE POTATO. XI+260P. C.A.B. INTERNATIONAL: WALLINGFORD, ENGLAND, UK; TUCSON, ARIZONA, USA. ILLUS. 0 (0). 1991. 181-192. ISBN: 0-85198-654-4
LA English

L10 ANSWER 3 OF 18

AN 89:420900 BIOSIS
DN BR37:76363
TI COMPARISON OF PATATIN INDUCED GUS EXPRESSION IN DIFFERENT CULTIVARS OF ***SOLANUM*** -TUBEROSUM .
AU BLUNDY K S; BLUNDY M A C; WILSON F; CARTER D; MOONEY P J; PARK W D; ***BURRELL M M***
CS ADVANCED TECHNOLOGIES LTD., CAMBRIDGE SCI. PARK, CAMBRIDGE, ENGLAND, CB4 4WA.
SO SYMPOSIUM ON PLANT GENE TRANSFER HELD AT THE 18TH ANNUAL UCLA (UNIVERSITY OF CALIFORNIA-LOS ANGELES) SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY, PARK CITY, UTAH, USA, APRIL 1-7, 1989. J CELL BIOCHEM SUPPL 0 (13 PART D). 1989. 296. CODEN: JCBSD7
DT Conference
LA English
13:NBV001C0RY10NB4CLEAR PAGE, PLEASSTN INTERNATIONAL P0061

L10 ANSWER 4 OF 18

AN 88:123993 BIOSIS
DN BR34:59855
TI GENETIC MANIPULATION IN ***POTATO*** .
AU OOMS G; ***BURRELL M M*** ; KARP A; TWELL D; ROBERTS J
CS ROTHAMSTED EXP. STN., HARPENDEN, HERTS.
SO HORN, W., ET AL. (ED.). GENETIC MANIPULATION IN PLANT BREEDING; INTERNATIONAL SYMPOSIUM, BERLIN, WEST GERMANY, SEPTEMBER 8-13, 1985. XIX+909P. WALTER DE GRUYTER: BERLIN, WEST GERMANY; NEW YORK, NEW YORK, USA. ILLUS. 0 (0). 1986. 823-826. ISBN: 3-11-010596-9; 0-89925-100-5
LA English

=) s blundy, k?/au
L11 9 BLUNDY, K?/AU

=) s l11 not l10
L12 6 L11 NOT L10

=) d l12 1-6 ti

L12 ANSWER 1 OF 6

TI ALTERATION IN GLYCOLYTIC INTERMEDIATES BY GENETIC MANIPULATION OF PHOSPHOFRUCTOKINASE.

L12 ANSWER 2 OF 6

13:NGV001C0RY10ND8CLEAR PAGE, PLEASSTN INTERNATIONAL P0062

L12 ANSWER 2 OF 6

TI EXPERIMENTAL MANIPULATION OF GENE EXPRESSION IN EMBRYOS OF

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        66368 YEAST?/AB
        81205 YEAST?/BI
L7          20 L4 AND YEAST?/AB,BI

=> d l7 1-20 ti py

L7   ANSWER 1 OF 20  CA  COPYRIGHT 1995 ACS
TI   A simple in vivo footprinting method to examine DNA-protein
     interactions over the   ***yeast***   PYK UAS element
PY   1994

L7   ANSWER 2 OF 20  CA  COPYRIGHT 1995 ACS
TI   A simple in vivo footprinting method to examine DNA-protein
     interactions over the   ***yeast***   PYK UAS element
PY   1994

L7   ANSWER 3 OF 20  CA  COPYRIGHT 1995 ACS
TI   Manuf. of soluble metabolic products using tranformed algae
PY   1993

L7   ANSWER 4 OF 20  CA  COPYRIGHT 1995 ACS
10:59:39 ON 05 JUL 95 CLEAR PAGE, PLEASE STN INTERNATIONAL                P0015

L7   ANSWER 4 OF 20  CA  COPYRIGHT 1995 ACS
TI   The isolation and characterization of the   ***pyruvate***
     ***kinase***  -encoding gene from the   ***yeast***   Yarrowia
     lipolytica
PY   1992

L7   ANSWER 5 OF 20  CA  COPYRIGHT 1995 ACS
TI   Isolation and characterization of the Aspergillus niger
     ***pyruvate***     ***kinase***   gene
PY   1992

L7   ANSWER 6 OF 20  CA  COPYRIGHT 1995 ACS
TI   Manufacture of foreign proteins with stably   ***transformed***
     ***yeasts***
PY   1993

L7   ANSWER 7 OF 20  CA  COPYRIGHT 1995 ACS
TI   Resulation of fitness in   ***yeast***   overexpressing glycolytic
     enzymes:  responses to heat shock and nitrogen starvation
PY   1992

L7   ANSWER 8 OF 20  CA  COPYRIGHT 1995 ACS
TI   Regulation of fitness in   ***yeast***   overexpressing glycolytic
     enzymes:  parameters of growth and viability
PY   1992

L7   ANSWER 9 OF 20  CA  COPYRIGHT 1995 ACS
TI   Multiple copies of the   ***pyruvate***     ***kinase***   gene
     affect   ***yeast***   cell growth
10:59:58 ON 05 JUL 95 CLEAR PAGE, PLEASE STN INTERNATIONAL                P0016

L7   ANSWER 9 OF 20  CA  COPYRIGHT 1995 ACS
PY   1990

L7   ANSWER 10 OF 20  CA  COPYRIGHT 1995 ACS
TI   Enhanced protein recombinant manufacture with   ***yeast***   low in
     cAMP-dependent protein kinase activity
PY   1990

L7   ANSWER 11 OF 20  CA  COPYRIGHT 1995 ACS
TI   Expression of a   ***yeast***   glycolytic gene subject to dosage
     limitation
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